Industrial Equipment News

FOUNDED 1933

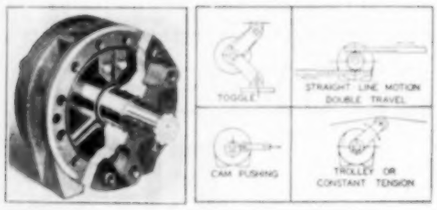
ORIGINAL REPORTER OF *What's New* IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

If you write maker identify as **IEN - 10695**

DRIVE . . Air or hydraulic actuator reciprocates in 100 or 280 deg. arc

Source: BONNOT CO.
720-24 Mulberry Road S. E., Canton 2, Ohio



Illustrated details and specifications in Bulletin 21

The company announces formation of a new division for manufacture of the Hydromotor which it recently purchased. The unit is available at present in eight sizes with single-vane construction for operation through a 280-deg. arc and double-vane construction through 100 degrees. The single-vane unit rates 150 to 11,500 in. lb. of torque on its shaft with 100-lb. oil, water or air pressure. The double-vane assembly rates 300 to 23,000 in. lb. under the same conditions.

A stationary shoe, bearing on the hub of the shaft mounted rotor, is a part of the outer cylindrical housing. It forms a pressure chamber in connection with an integral vane on the rotor. Torque is applied on the shaft when hydraulic or pneumatic pressure is admitted between the stationary vane and the shaft mounted one.

Applying and releasing this pressure alternately on the two sides of the rotating vane causes the shaft to reciprocate through its circular arc. Two-vane construction on the shaft and cylinder divides the pressure chamber into two sections, each of which applies equal pressure on its vane to double the torque and cut the arc from 280 deg. to 100 degrees.

If you write maker identify as **IEN - 10696**

SWITCH . . Wire filled mat closes 1 amp. circuit when compressed

Source: RECORA CO.
7417-21 S. Western Ave., Chicago 36, Ill.

Relay and 18 by 30 in. mat about $40

Stepping on this new Switchmat, walking or riding over it, serves to close its single-pole single-throw circuit each time that pressure to 5 lb. or more is imposed. The circuit is capable of handling 1 amp. on 110-volt ac. direct or to operate a relay assembled with a transformer in a small metal housing to operate electric circuits rating to 1,000 watts. The mat is available in any size or shape from 2 by 2 in. to 36 by 144 inches. It measures $\frac{1}{16}$ in. in thickness.

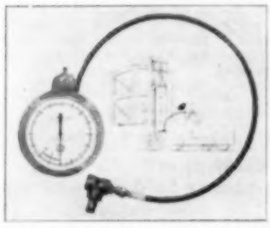
The construction employs vinyl plastic, rubber or neoprene, hermetically sealed against entrance of moisture and designed so the circuit is closed by pressure at any point on the surface except for a narrow surrounding border. Typical uses include application at machines to actuate interplant traffic controls, to open and close doors, to sound alarms against intruders, to open and close lighting circuits for signaling and protection in a variety of applications.

SUPPORT YOUR COMMUNITY CHEST

If you write maker identify as **IEN - 10697**

WEIGHING . . Lift truck scale applies on hydraulic load cylinder

Source: MARTIN-DECKER CORP.
3435 Cherry Ave., Long Beach 7, Calif.



Weighs what you pick up

New scale, designed to mount in front of a lift truck operator, is fitted with a reinforced tube line and connection fittings for application on the pressure side of the load cylinder on an industrial truck. When a load is lifted from the ground the cylinder pressure is transmitted to the dial indicator which is calibrated to read in pounds of load handled.

Nine sizes range in capacity from 2,000 to 18,000 pounds. The scale protects a truck against overload. It also is useful in accumulating load totals that have been handled.

If you write maker identify as **IEN - 10698**

PLASTIC . . Cellulose fibers, free flowing, thermoplastic, tough

Source: AMERICAN VISCOSE CORP.
1615-19 Pennsylvania Blvd., Philadelphia 3, Pa.

18 to 40 cents per pound

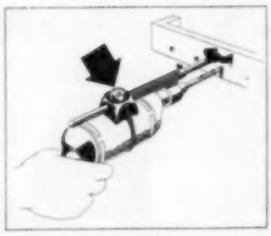
Avrocel trade names a new cellulose fiber coated with a thermoplastic cellulose ester to produce a white free flowing product. It consists of short fibers ranging from $\frac{1}{16}$ to $\frac{1}{8}$ in. in length. The thermoplastic coating adheres firmly to the surfaces of the fibers and can be activated to an adhesive state by heating or by use of an organic solvent.

This property suits the new material for use as a binder for synthetic resins and cellulose derivative plastics to promote impact strength as well as to serve as a filling medium. The material is moldable at 350 deg. F. and 3,500 lb. pressure. Ketones and esters, glacial acetic acid, phenol and some chlorinated solvents are used as activating solvents.

If you write maker identify as **IEN - 10699**

DRILLING . . Portable tool attachment to "square" a drill with the work

Source: ROY SILVER CORP.
952 Industrial St., Devon, Conn.



List is $12.50

Guide-A-Drill is a new portable drill attachment consisting of a body to saddle mount on a drill housing and to secure in position with a garter spring. On the top face of the body is a circular spirit level. Extending through the body is a spring backed finger with an angle graduated contact head. The unit visually indicates to an operator when he has the portable tool located square with the work or at a desired horizontal angle. The spirit level assists him to hold the tool in correct steady alignment. The finger head is calibrated in 5-deg. divisions. The complete unit measures 12½ in. in length.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

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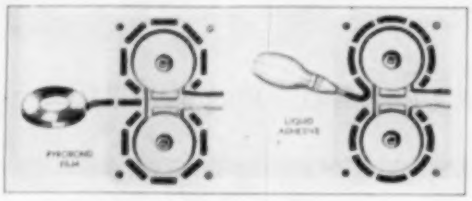
ATTENTION PLEASE

If a post card with your address stencil is attached to the front of this issue please check and return it at once so we can verify your addres sand continue your name on our mailing list. No cost—no obligation. Thanks.

If you write maker identify as **IEN - 10700**

ADHESIVE . . Film and liquid to bond the mating faces of shell molds

Source: WORLD BESTOS CORP.
1110-14 S. 25th St., New Castle, Ind.



Samples available upon request

Two forms, one a film and the other a liquid, are available in a new Pyrobond adhesive for use in assembling the two halves of a shell mold, prior to pouring molten metal into the mold gate. The film is laid between the halves as they come from the pattern plates retaining sufficient heat to cure the adhesive. The liquid is employed when the halves are cured at different times and have cooled. In the latter case the mold is cured in an oven.

The adhesive can be applied close to the casting cavities. It will hold the mold halves together evenly with ample strength to retain the molten metal. The adhesive disappears in the shell reclaiming process.

If you write maker identify as **IEN - 10701**

JACK . . Adjustable support for a press ram or hold down clamp

Source: LEMPCO PRODUCTS INC.
5706 Dunham Road, Bedford, Ohio

For safe support

Saf-T-Prop trade names a new telescoping cylindrical unit filled with flat steel slugs. When the upper portion is lifted the slugs pour out of an opening in it and fall into the cylinder surrounding it. They form a solid mass of steel on which the movable part can rest. Load is rated to 10 ton.

The unit can be returned to its original position by turning it upside down so the slugs will pour back into the inner bore. Four sizes measure 2½ to 8 in. in lowered height and 3⅝ to 12 in. when fully raised. Construction is in steel for both portions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as **IEN - 10702**

FOR EASY SHIFTING OF HEAVY EQUIPMENT

DUFF-NORTON
Traversing Bases

Heavy machinery and equipment can be shifted with ease by means of Duff-Norton Traversing Bases. Used with or without screw and ratchet type jacks, loads can be moved horizontally up to 26". You should have a set of these bases in your plant. Investigate the savings they make possible.

Write today for Bulletin AD-4G.

THE DUFF-NORTON MANUFACTURING CO.
Main Plant and General Offices: PITTSBURGH 30, PA.—Canadian Plant: TORONTO 6, ONT.
"The House that Jacks Built"

If you write maker identify as **IEN - 10703**

For Heavy Loads from ANY Direction

• This double row angular contact bearing is internally preloaded for maximum rigidity under all conditions. It is the perfect all-around bearing for radial loads, pure thrust in either direction, or any combination of the two. Send for general catalog S.

NEW DEPARTURE BALL BEARINGS

NEW DEPARTURE • Division of General Motors • Bristol, Connecticut

If you write maker identify as **IEN - 10704**

SNUFFS OUT FIRE

Just squeeze the trigger. Poof! Out goes the fire. *Kidde* Carbon Dioxide Portables smother fire instantly. No fuss, no muss, no fumes. Write for full information.

Kidde

Walter Kidde & Company, Inc.
1036 Main St., Belleville 9, N. J.

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc. and its associated companies

If you write maker identify as **IEN - 10705**

"THE GREATEST BRAZING SHOW ON EARTH"

NATIONAL METAL CONGRESS
PHILADELPHIA • BOOTH 110

INTERESTING! AMAZING! EDUCATIONAL!

3-ring exhibition of metal joining strength, speed and versatility by the world-renowned low-temperature silver brazing alloys, EASY-FLO and SIL-FOS.

RING 1 — Eye-opening demonstration of torch brazing ease and versatility. Also, carbide tool tipping by a new member of the H&H brazing troupe — Trimetal.

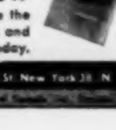
CENTER RING — EASY-FLO in a surprising demonstration of production brazing.

RING 3 — From the four corners of industry — four 2-minute movies of EASY-FLO and SIL-FOS in action.

BRAZING EXPERTS on hand ready to discuss your own brazing.

IF YOU DON'T GO TO THE SHOW

Ask us to send a field engineer to demonstrate the alloys in your plant — or get the full EASY-FLO and SIL-FOS story in BULLETIN 20. Write for a copy today.

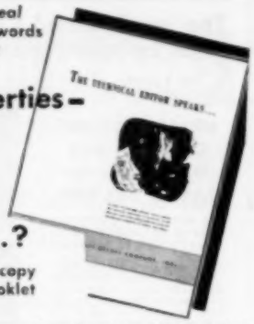


HANDY & HARMAN 82 Fulton St. New York 38, N. Y.

If you write maker identify as IEN - 10706

Do you know the *real* meaning of these words and phrases about metals . . .

Tensile Properties – Modulus of Elasticity – Ductility – Magnetism . . . ?



Send for your free copy of this valuable booklet

It gives you short, down-to-earth explanations of the technical words used in describing and measuring the properties of metals and alloys.

It contains up-to-date technical facts, written in a way that a non-engineer can understand.

You'll find a plain, clear explanation of tensile properties, elasticity, ductility, fatigue strength, high and low temperature effects, corrosion, galvanic corrosion, magnetostriction.

In "The Technical Editor Speaks" you'll also find lists of the compositions of Inco Nickel Alloys, with their physical and mechanical properties and engineering and government specifications that apply to them.

If you specify, work with, or use metals, you'll find this booklet a handy tool to have around – *Send for it now!* Just circle the proper number on the handy I.E.N. reply card and mail it today.

THE INTERNATIONAL NICKEL COMPANY, INC.
75 Wall Street, New York 5, N. Y.

If you write maker identify as IEN - 10707

securityflex* saves money...

and because of its strength, toughness, and wear-resistant properties, this heavy-duty portable cord needs fewer replacements—lowers maintenance costs.

*Trademark

Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.

the right cable for the job

ANACONDA® wire and cable

If you write maker identify as IEN - 10708

BROWNING *First Again!*

WITH "UNBREAKABLE" MALLEABLE IRON SPLIT TAPER BUSHINGS

in

BROWNING GRIPBELT SHEAVES

FLEXIBLE AND RIGID COUPLINGS and BROWNING PAPER PULLEYS

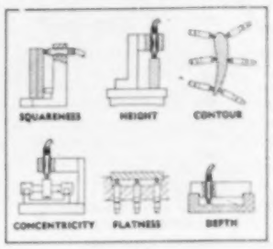
Write for the name of the BROWNING distributor near you

BROWNING MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY, U. S. A.

If you write maker identify as IEN - 10709

GAGE . . Pneumatic head contacts work to actuate air gage

Source: SHEFFIELD CORP.
719-23 Springfield Ave., Dayton 1, Ohio



Typical setups

Plunjet trade names a new miniature pneumatic gaging head assembled in a ⅜-in. cylinder or a ⅝-in. square housing measuring 1¾ in. in length. In the housing is a spring backed plunger carrying a contact point at its outer end. A taper at the inner end controls flow of air through a jet proportional to the plunger movement. The rear of the housing forms a fitting: for a plastic tube by which the head is connected to the company's Precisionaire pneumatic gage or other similar equipment.

One or more of the heads can be connected to check deviation from set dimensions under a wide range of conditions. Three standard ranges are to 0.040, 0.020, and 0.010 inch. Amplification for these ranges is from 125 to 500 to 1.

Two types include Standard and Reverse, the latter have the large end of its taper away from the orifice. Gaging contact pressure, when the air is turned on, is approximately 1 ounce. Each head is correctly calibrated by a feeler gage equipped with minimum and maximum range feelers. These feelers are inserted between the plunger head and the front face of the head housing upon initial set-up and to check from time to time on the calibration.

If you write maker identify as IEN - 10710

COMMUNICATING . . Microwave radio to signal, control, converse

Source: RADIO CORP. OF AMERICA
1941 Front & Cooper Sts., Camden 2, N. J.

960 megacycles

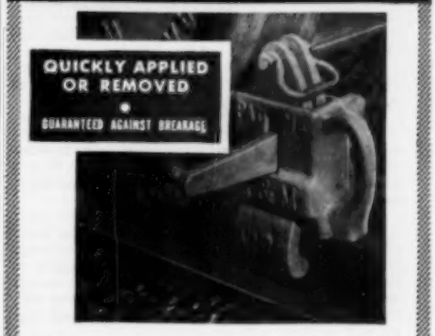
Type CW-5B designates new microwave relay equipment for point to point communication over distances to 300 miles in connection with a chain of repeater stations spaced about 25 miles apart. The equipment serves terminal and automatic relay stations. It provides for simultaneous operation of five voice channels and one service channel. As many as 18 telemetering, remote control, or supervisory circuits can be substituted for each voice channel.

The transmitter and receiver can be installed in a single 84-in. cabinet or open rack. A complete two-way repeater can be mounted on a single 89-in. cabinet or rack. Antenna connection is made by a solid or semi-flexible gas filled coaxial cable. The antenna consists of a dipole with a parabolic reflector measuring 2, 4 or 6 ft. in diameter. The transmitter has a power output of two watts and calls for input on 110-volt 60-cycle ac. at 450 watts. Receiver power requirement is 100 watts.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

If you write maker identify as IEN - 10711

SAFETY EQUIPMENT FOR ALL INDUSTRIES



IPCO M and M RAIL CLAMPS

For car stops, on loading platforms, temporary sidings, cars on grades, and traveling cranes . . . Used and recommended by leading Steel Companies, Manufacturing Plants, Mines, Grain Elevators, Cement Plants and Quarries.

WRITE FOR BULLETIN NO. 44

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

If you write maker identify as IEN - 10712

LUBRICATION ECONOMY

LUBRIPLATE LUBRICANT Increased Bearing Life from 2 Weeks to 2 Years!

So says The Globe Company, manufacturer of meat processing machinery. *"In the packing industry where animal acids and moisture quickly destroy anti-friction bearings lubricated with conventional lubricants, LUBRIPLATE prolongs the life of bearings from 2 weeks to 2 years."*

1. LUBRIPLATE reduces friction and wear
2. LUBRIPLATE prevents rust and corrosion
3. LUBRIPLATE is economical to use

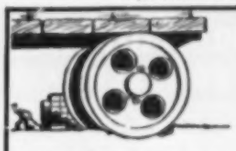
Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION
Fiske Brothers Refining Co.
Newark 5, N. J. Toledo 5, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

If you write maker identify as IEN - 10713



IN A Rut?

DON'T LET WORN FLOORS SLOW UP PRODUCTION!

A *real* heavy-duty floor must be concrete—*good* concrete. 'Incor' 24-Hour Cement assures stronger, longer-lasting, heavy-duty concrete floors—by curing THOROUGHLY in 24 hours, instead of a week or more.

Don't let worn-out floors slow production—rebuild floors over a week-end with 'Incor'*—no plant tie-up—no time-loss!

Write for booklet, "Heavy-Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.

*Reg. U.S. Pat. Off.

LONE STAR CEMENT CORPORATION

Offices: Abilene, Tex. • Albany, N. Y. • Bethlehem, Pa. • Birmingham • Boston Chicago • Dallas • Houston • Indianapolis • Kansas City, Mo. • New Orleans New York • Norfolk • Philadelphia • Richmond • St. Louis • Washington, D. C.

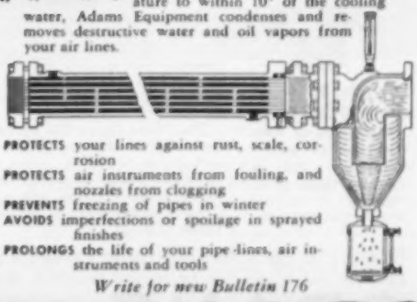
If you write maker identify as IEN - 10714

You Can be Sure of Clean Dry Air for your Compressed Air Tools with ADAMS Aftercooler and Cyclone Separator

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator

● Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

If you write maker identify as IEN - 10715

What do you know about the *Moly-sulfide* LUBRICANT?

A LITTLE GOES A LOT

You may have heard about a highly successful solid-film lubricant which is giving remarkable results in the shop and in the field.

In one 40-page booklet we have collected 154 detailed case-histories describing how difficult lubrication problems have been overcome by molybdenum sulfide. If you wish to be up to date about this solid-film lubricant, write for a free copy now.

THE LUBRICANT OF MANY USES

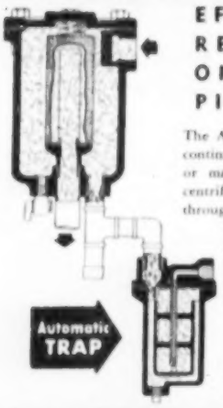
Moly-sulfide
A LITTLE GOES A LOT

SEND FOR THIS FREE BOOKLET TODAY

Climax Molybdenum Company
500 Fifth Avenue · New York City 36 · N.Y.

If you write maker identify as IEN - 10716

Poro-Stone Filtration
FOR COMPRESSED AIR



EFFICIENTLY REMOVES OIL, WATER PIPE SCALE

The Adams *Poro-Stone Filter* gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation.

Write for complete data Bulletin 176.

R. P. ADAMS CO., Inc.
219 E. Park Dr., Buffalo 17, N. Y

ADAMS *Poro-Stone* AIR FILTER

If you write maker identify as IEN - 10717

Don't take chances with relief valves

No. 2668
Brass Relief Valve
Especially recommended for gasoline or noxious gases. Sizes up to 2-inch.

GET YOURS FROM CRANE

No better way to protect valuable piping and equipment against pressure build-up—than with Crane Relief Valves. They're engineered—and quality built—for dependable, positive action when properly installed for rated services.

The broad Crane line includes Relief Valves of brass, iron, steel and alloys—for steam, water, oil and other processing applications. To be absolutely sure, ask your Crane Representative or see your Crane Catalog.

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Everything for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

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Vol. 20 OCTOBER, 1952 No. 10

CFE-1952

One fact stands out crystal clear in the welter of talk and cross talk that will strive for your attention during all this month . . the fact that "free enterprise" has been and continues the sole source on which we and our government must depend to finance every activity. Free enterprise, and that includes every business and every individual, large, small, rich, poor, is required to contribute in steadily increasing amount to town, state and federal government plus probably an equal or greater sum in taxes we cannot see.

It is tough to be called on to give up so much of our earnings. It is fortunate, thanks to free enterprise, we have it to give. It is critically important that we understand what needs doing to preserve free enterprise so it as well as its proceeds will not be tax collected.

Just what is free enterprise? By whom can it be threatened? What are its obligations, its human resources, its opportunities? How can we work for it to keep it safe? How can we strengthen it so it can pay us for our work and give us savings, after taxes, to plow back into it so we can live on dividends, not the dole, when our working days are over?

We watched free enterprise being defended over the television, last April 9th, by Clarence B. Randall of Inland Steel when he replied for the industry to the illegal seizure of the steel mills. We listened as Mr. Randall presented the facts with the confident, sincere and earnest backing that could come only from intimate knowledge of those facts and complete belief in their truth. His was no ghost written speech. No ghost writer with all of his reference books, his jokes, and his artificial punch lines could have put into an hour or more the straightforward, plain and convincing talk that Mr. Randall compressed into fifteen tense minutes.

Now he has written a book, "A Creed for Free Enterprise". We quote a bit of it although we would like to write the whole thing out right here and now.

"Business men can and should stand up and say what they think whenever people will listen . . . to bring to people everywhere the exciting and confident message of our faith in the free enterprise way of life. . . . We are not doing that now. We have learned how to use every modern tool except language.

"What a change would come in this struggle for men's minds if suddenly there could pour out from the world of American business a torrent of intelligent, forward-looking thinking, flowing straight from the hearts of fine men who lead our institutions, that would tell not only the miracle of production, but the hopes and aspirations for a better world which I know these men actually to hold. . . ."

Mr. Randall pulls no punches. He deals in his book with production, unions, the boss, the community, government, foreign policy, universities, young men, retirement and the business of thinking. The book will be on sale at the regular book stores but in the meantime it is available in a special edition for 50 cents per copy through the non-profit organization Constitution and Free Enterprise Foundation Inc., 210 E. 43rd St., New York 17, N. Y. You can address Mr. G. E. Hancock or mark CFE-1952 on your reader service form.

W. E. Irish.

If you write maker identify as IEN - 10718

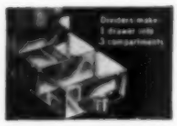
The most useful CHRISTMAS GIFT your company can give this year!

"JIFFY"

METAL STORAGE CABINETS with "lifetime guaranteed" PLASTIC DRAWERS

ALL BOXED AND CAREFULLY PACKED FOR SHIPMENT TO YOUR FAVORITE CUSTOMERS

There isn't a man on your gift list who wouldn't be tickled pink with one of these multi-use cabinets. He'll use it in his home, his shop, his office . . . and he'll remember you gratefully for years to come.



Drawers are 5¾" deep, 2¾" wide, 1¾" high. Safety catch ends accidental spilling, identity card drops into slot in drawer front.

Made in 7 sizes:

J-64	64 drawer (192 compartments)	$22.95
J-48	48 drawer (144 compartments)	18.75
J-32	32 drawer (96 compartments)	11.95
J-24	24 drawer (72 compartments)	9.95
J-16	16 drawer (48 compartments)	6.95
J-12	12 drawer (36 compartments)	5.25
J-8	8 drawer (24 compartments)	3.95
AKR. Adapter Kit for dividing 8 drawers LENGTHWISE (cross-wise dividers FREE with each cabinet)		38

AKRO-MILS, INC.
Box 989
AKRON 9, OHIO

SEND FOR FREE DESCRIPTIVE FOLDER

If you write maker identify as IEN - 10719

S-A Car Pullers

Save Time, Cut Costs

If you have your own switch track, you can use an S-A Car Puller. No need to use a gang of men or wait for a switch engine. *One man can shift or spot up to six loaded cars under normal conditions.* Powerful capstan will also pull or lift other heavy loads at 45 feet per minute.

Write for bulletin 1339

STEPHEN S-A ADAMSON

Televel Bin Level Controls • Car Loaders
SACO Speed Reducers Car Pullers • Winches
SealMaster Ball Bearings

231 Ridgeway Ave., Aurora, Illinois

If you write maker identify as IEN - 10720

Amazing
FLASH BOX OPENER
Opens Any Carton Quicker . . . Cleaner

Exclusive patented blade holder adjustable to varying thicknesses of carton covers.

THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts clearly to permit re-use • Prevents accidents • Saves time • Eliminates fatigue. *Already accepted by leading industries.*

Retail Price
$1.75

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

If you write maker identify as IEN - 10721

6 GOOD REASONS FOR CHOOSING. . . LOVEJOY UNIVERSAL JOINTS

- Concentricity guaranteed to .001.
- Rivets ground flush with body for close quarter work.
- Greater angle of operation with maximum bearing surface and strength.
- No binding, backlash or inplay of pins.
- Highest grade heat-treated alloy steel.
- Exceed Armed Forces rigid requirements.

Available in 13 sizes. Diameters 1/2" to 4". Lengths 2" to 10 1/2".

WRITE FOR CATALOG TODAY

LOVEJOY FLEXIBLE COUPLING CO.
5005 W. Lake Street Chicago 44, Illinois
Also Mfrs. Lovejoy Flexible Couplings and Lovejoy Variable Speed Transmission

If you write maker identify as IEN - 10722

"Stop-Go" FLOW CONTROL FOR BINS, HOPPERS, TANKS, ETC.

with TELLEVEL Bin-Level Control

Mount a TELLEVEL near the top and another near the bottom of your storage bin . . . As the material-level falls or rises, the light pendant is pushed aside . . . Automatically *starts or stops* conveyor, elevator or pump . . . Can be furnished for bulk materials or liquids.

Rising Level of Material Tilts Float-Ball and Stops Conveyor

Write for TELLEVEL Bulletin No. 1048.

STEPHENS-ADAMSON MFG. CO.
Tellevel—Bin Level Controls · Car Loaders · Car Pullers · Winches · SealMaster Ball Bearings · Sace Speed Reducers
231 RIDGEWAY AVE., AURORA, ILLINOIS

If you write maker identify as IEN - 10723

TAKES THE POUNDING OF MILLIONS OF FEET!

PABCO MASTIPAVE
AMERICA'S No. 1 LOW COST LONG-LIFE FLOOR COVERING

Here's what the ILLINOIS CENTRAL RAILROAD has to say about PABCO MASTIPAVE . . . "Two years ago we covered the wooden flooring leading to the train platforms in our Randolph Street suburban passenger station with Grip-Tread Mastipave. More than 50 million pairs of feet have walked over this flooring and it is still giving excellent service.

"Before using this covering we had a problem with passengers slipping on the wooden flooring when it became wet. Mastipave has made a real safety contribution in that it has eliminated slipping hazards."

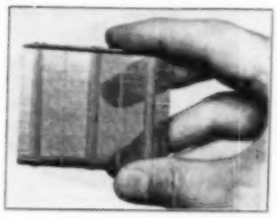
25 years of proved performance! Pabco Mastipave—both regular and non-slip Grip-Tread types—costs little, looks good, wears even better! Available in roll goods or tiles.

SEND NOW FOR THE FULL STORY OF MASTIPAVE!
(Mail to Dept. E, nearest office)
PABCO PRODUCTS INC.
New York 16 Chicago 54 San Francisco 19

If you write maker identify as IEN - 10724

SCREENING . . Wedge slot element for processing and classifying uses

Source: HENDRICK MFG. CO.
25 Lewis St., Carbondale, Pa.



For dewatering service

Type 10 A is a new addition to the company's line of Wedge-Slot screens, previously described IEN-11436-44. The new element is made with stainless steel bars having a V-shaped section to present openings that range from 0.004 to 0.04 inch. A companion Type 15 A is similar in design with openings measuring 0.012 to 0.06 inch.

Spacing between assembly rivets is about 1 in. to secure the bars in uniform position and prevent distortion of the slot width in service. Spacing lugs are employed between the bars to lock the mesh in place. Clasps can be provided for side or end tension. They are interchangeable with any other tensioned type of screen on any make of vibrating equipment.

If you write maker identify as IEN - 10725

HANDLING . . Steel tote box with steel corner brackets to stack

Source: STEWART PARKER CO.
418 Frick Bldg., Pittsburgh 19, Pa.

Sides and ends are tapered

The company announces availability of a new line of custom built steel tote boxes. It is prepared to manufacture to specified sizes and quantities in welded assembly with reinforced roll around the upper edge. Corner brackets, depressed 1 in. from the top, provide support steps on which filled boxes can be stacked. The angle type handles are folded under the top rim and are secured by spot welding. Each has a 5/8-in. drag hook hole centrally located.

If you write maker identify as IEN - 10726

DRIVE . . Locking roller clutch for one way operation, to 1/4 in. bore

Source: ODIN CORP.
P. O. Box 6032-A, Indianapolis 20, Ind.

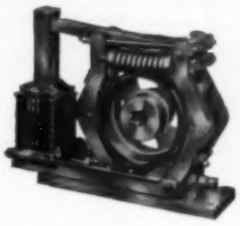
Snap ring holds hub

Typical use for this new miniature one-way clutch is in a feed ratchet on a machine where accuracy in engagement and release is required. The outer housing and the roller equipped hub are ground finish. The hub acts through the rollers to grip the housing in forward direction only. It rides free when it is reversed or retarded with relation to rotation of the housing. Sizes start at 1/8-in. bore and are maximum at 1/4 inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10727

TROMBETTA SOLENOID CORP.
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.



SB-373 SHOE BRAKE
10" WHEEL, 5" Face, 450 FT.-LBS.

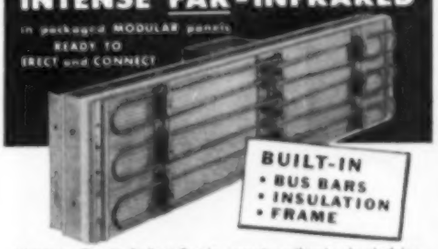
SB-300 LINE OF BRAKES
TORQUE CAPACITY 3 to 24,000 FT.-LBS.

AVAILABLE IN SPRING SET OR MAGNETICALLY SET
WITH OIL IMMERSED AND EXPLOSION PROOF SOLENOIDS

EIGHT LINES OF SOLENOIDS, RECIPROMOTORS AND SEMOTORS

If you write maker identify as IEN - 10728

NOW CHROMALOX GIVES YOU INTENSE FAR-INFRARED in packaged MODULAR panels READY TO ERECT and CONNECT



BUILT-IN
• BUS BARS
• INSULATION
• FRAME

Chromalox Electric Radiant Panels generate uniformly absorbed far-infrared heat for baking, drying, curing and other uses. Temperatures up to 700° F. are easily selected and accurately held with "dialed" controls.

THESE ADVANTAGES—AND MORE!
- Longer Wave Length—absorbed equally fast by all colors.
- High Intensity Radiation—more watts per square foot.
- Infinitely Variable Output—from 0% to 100% of capacity.
- Shatter proof Construction—nothing to break or contaminate work.

OVEN BUILDING SIMPLE AS A-B-C
1" x 4' and 2" x 4' pre-engineered panels quickly assemble into ovens.

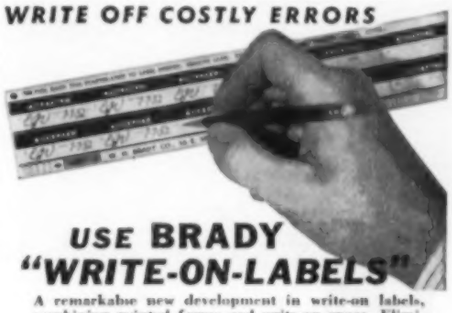
GET THIS BULLETIN
It shows you how Chromalox Radiant Panels can save you time, money, work.

Industrial Radiant Heating Division
EDWIN L. WIEGAND CO., 7505 THOMAS BOULEVARD, PITTSBURGH 8, PA.
See Chromalox Electric Heating Units Advertisement, Page 11

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 10729

WRITE OFF COSTLY ERRORS



USE BRADY "WRITE-ON-LABELS"

A remarkabe new development in write-on labels, combining printed forms and write-on space. Eliminate errors, simplify quality-control, speed production through the use of these Brady self-sticking, Write-on Labels, made to your requirements. They're mounted on handy dispenser cards which serve as writing boards; easily written on with pencil, pen, rubber stamp or even typewriter, and then applied to any surface. Hundreds of money-saving uses, including inspection, identifying circuits and instruments otherwise hard-to-mark.

Made of self-adhesive, sturdy cloth backing, pre-cut to exact size, shape, color and printing desired. Send for samples and complete information on stock and special labels.

MANUFACTURERS OF SELF-STICKING PRODUCTS
W. H. BRADY COMPANY
759 W. GLENDALE, MILWAUKEE, WIS.

If you write maker identify as IEN - 10730

The "BLUE CHIPS" are Careful about Metal Chips like these

ALLIS-CHALMERS Electronic Metal Detector

BLUE CHIP COMPANIES in the food industry take every precaution to protect product purity and their good names. They're the biggest users of Allis-Chalmers Electronic Metal Detectors. That extra effort to provide product purity is just one more reason they're on top. Can you afford to be less careful? Electronic Metal Detectors are the only sure way of detecting the presence of non-magnetic as well as magnetic particles in food packages. Spots particles as small as .047 inch in diameter. Unit fits production set-ups.

Call your nearby Allis-Chalmers district office for complete information, or write Allis-Chalmers, Milwaukee 1, Wis.

A-3712

ALLIS-CHALMERS

If you write maker identify as IEN - 10731

SAVED $3,044 OVER COST OF ELEVATOR

WRITE— for Suggestion. Give height, floor to floor and horizontal space available . . . Also maximum unit load.

- Maintenance — Zero
- Operating Cost — Negligible
- 500% Faster Loading and Unloading
- Safer than Elevator
- Flexible, with two-way Controls
- Prompt Delivery — Easy Installation

METZGAR CO. METZGAR

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES • STEEL DOLLIES & END-WOOD WHEELS.

417 Douglas, N. W.

GRAND RAPIDS 4, MICH.

If you write maker identify as IEN - 10732

INCREASE PRODUCTION NOW... WITH Present Plant Manpower / Present Plant Space

Mighty valuable ceiling space can be put to work—without increasing your plant capacities and without increasing plant manpower.

An American MonoRail engineer will show you how you can use your "air rights." With thousands of overhead handling installations from which to draw, each with many money and timesaving advantages, it will pay you to investigate American MonoRail Overhead Handling Systems. Send for bulletin C-1.

THE AMERICAN MONORAIL COMPANY

13111 Athens Avenue • Cleveland 7, Ohio

If you write maker identify as IEN - 10733

To more easily identify stainless steels that may have become mixed in stock—or stainless scrap—use Carpenter's new chart for segregating stainless steels. It diagrams and explains how and when to use each of 11 tests. Typical reactions are given for the nitric acid, magnet, spark, hardness, muriatic acid, sulphur spot, nickel spot, and stabilization tests. Return the coupon below for your copy now.

THE CARPENTER STEEL COMPANY

151 W. Penn St. • Reading, Pa.

Gentlemen: Without obligation, please send me your new chart for identifying Stainless Steels.

NAME _____ TITLE _____
(Please Print)
FIRM _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

If you write maker identify as IEN - 10734

CUTTING . . Portable electric tool to undercut the mica in commutators

Source: MARTINDALE ELECTRIC CO.
1353 Hird Ave., Cleveland 7, Ohio

Model H is a new portable electric tool equipped with a 1/5-hp. universal motor to operate the tool spindle at 2,800 rpm. The spindle takes circular cutters to produce either "U" or "V" slots. Three interchangeable heads are suitable for use with saws or "V" cutters ranging from ¾ to 1¼ in. in outside diameter. Each head is equipped with a depth gage. The two small units have slot guides while the largest one has roller supports.

If you write maker identify as IEN - 10735

PLASTIC . . Fibrous mat material for cushioning, padding, filtering

Source: FELTERS CO.
238-12 South St., Dept. NP, Boston 11, Mass.

Sample piece upon request

Dynel Mat is a new thermoplastic fibrous material available in thicknesses from 0.1 to 0.25 inch. Width is to 72 in. in roll form or 36 by 36 in. in sheets. Apparent density ranges from 6 to 18 lb. per cubic foot. The material can be pressed to higher density sheets. It also can be surface formed or molded to shape.

Applications include padding or cushioning for service in corrosive atmospheres, as a variable multi-pore structure for special filtration operations. The mat is resistant to attack by alkalis and acids. It is fire resistant, fungus proof and insect proof. It can be wetted but will not show dimensional change as a result.

If you write maker identify as IEN - 10736

RELAY . . Sub-miniature design for aircraft, 1 amp. at 30 volt dc.

Source: T. C. WHEATON CO.
852 Wheaton Ave., Millville, N. J.

Solder terminals

Type WR-8 is a new sub-miniature relay available in open, enclosed, and hermetically sealed assemblies, particularly for use in aircraft. It employs palladium contacts and is single pole double throw design. The sealed assembly weighs one ounce. Recommended operation with a 5,000-ohm coil is for 48-volt dc. with pull-in at 28 to 32-volt dc. and drop-out at 11 to 15-volt dc. Coils can be supplied with ratings from 125 to 5,000 ohms with a 500-ohm unit in standard construction.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10737

Need a building? Or a series of them? Quickly, and at low cost?

Truscon SPEED-ERECT Steel Buildings can be arranged to fit exactly your requirements of design and budget. Truscon Steel Buildings are available in a wide range of standard designs. They are used for all kinds of industrial and commercial buildings because they offer fire protection, permanence, ease and speed of erection, low upkeep, low cost, high investment value. Truscon Steel Buildings have a high salvage value which permits them to be dismantled and re-erected in an entirely new location at modest expense.

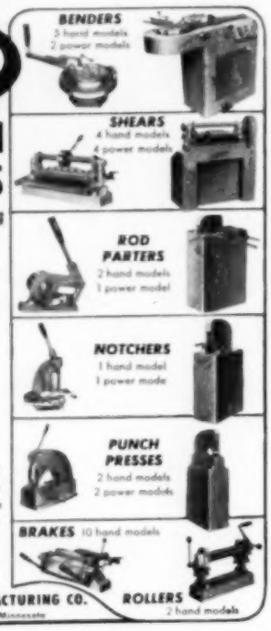
Write and tell us your building requirements.

FREE BOOK—Plan your building needs with the aid of the fully illustrated, 24 page catalog giving full details on these Truscon Ready-Made Steel Buildings. Write for your free copy today.

TRUSCON STEEL COMPANY 1004 Albert St. Youngstown 1, Ohio

Subsidiary of Republic Steel Corporation

If you write maker identify as IEN - 10738



If you write maker identify as IEN - 10739

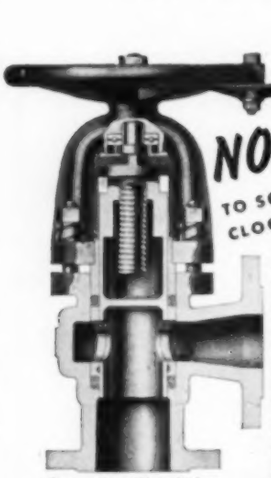
Oxweld

PORTABLE FLAME-CUTTING MACHINES FILL A VARIETY OF SHOP REQUIREMENTS

This Oxweld CM-16 is designed for oxy-acetylene flame-cutting of steel plate up to 4 inches thick. It travels directly on the work and cuts circles automatically—hand-guided, it cuts irregular shapes. Operated on track this machine cuts straight lines. Adaptors are available for straight-line cutting on thick steel or for beveling. The CM-16 weighs only 45 pounds and is low in price. Write for catalog, Form 4487.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

If you write maker identify as IEN - 10740



Cross section of Type "B" Seatless Angle Valve, Flanged.

NO SEAT!

TO SCORE . . . WEAR . . . CLOG . . . AND LEAK

The Yarway Seatless Blow-Off Valves eliminate the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seatless principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

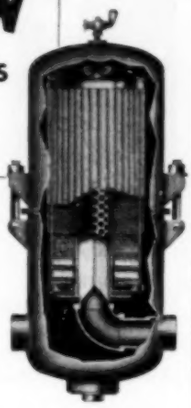
SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.

YARNALL-WARING COMPANY
122 Mermaid Ave., Phila. 18, Pa.

YARWAY BLOW-OFF VALVES

If you write maker identify as IEN - 10741

LET **STAYNEW** LIQUID FILTERS *Solve Your Filtration Problems!*



Bring your liquid filtration problems to Dollinger engineers. Their specialized experience is available in recommending the most efficient and economical equipment for filtering liquids in a wide range of viscosities, temperatures, acidities, alkalinities, pressures and capacities.

From our 30 years experience in liquid filtration, we have built up a vast file of helpful information. Any part of this information is yours for the asking—no obligation.

MODEL EL5 Staynew Liquid Filter

Representatives in Principal Cities

DOLLINGER CORPORATION
3 Centre Pk., Rochester 3, N. Y.
ALL TYPES OF FILTERS FOR EVERY INDUSTRIAL NEED

If you write maker identify as IEN - 10742

All Privates, "Brass," and Even Mules ... Know

PROTO means PROfessional TOols!

Industrial Tools • Pliers Wrenches • Screwdrivers Pullers • Punches • Chisels Sockets • Many Others

Accurate manufacture is a big reason why PROTO tools are *professional* tools. Close tolerances are met with precision machines and advanced methods in modern factories. As a result, the tools fit properly and operate smoothly, making them faster, safer and easier to use. Field-tested designs, PROTO-specified alloy steels and scientific heat treatment are more reasons why you get *professional* quality when you buy tools from your PROTO dealer. Send 10¢ for 68-page catalog to

PLOMB TOOL COMPANY
2271U Santa Fe Ave., Los Angeles 54, Calif.

Eastern Factory—Jamestown, N.Y.

3286 PROTO TOOLS LOS ANGELES

If you write maker identify as IEN - 10743

HERE IS THE MEANS TO *Simplified* CODE MARKING

Meco SAFETY INSPECTION STAMPS In AF Preferred Designs

For code dating, coding of specifications, identifying inspectors, workmen, shift, etc.—Meco Safety Inspection Stamps are supplied in a wide variety of standard or special code designs. They are made in either Wedge-Grip or Hevi-Bevl styles to suit your requirements. *Write for complete data.*

M. E. CUNNINGHAM CO. SAFETY STEEL STAMPS
1089 CHATEAU STREET • PITTSBURGH 33, PA.

If you write maker identify as IEN - 10744

DRIVE . . Hydraulic transmission mounts torque converter and coupling

Source: TORCON CORP.
1152 W. 5th St., Ashtabula, Ohio

Ask for Bulletin TC-649

New sizes have been added to the company's single stage three element hydraulic transmission, previously described IEN-6120-52. Ten sizes now range from 11 to 26 in. in wheel diameter for an overall rating between 30 and 600 hp. Each can be furnished plain or with a cut-off clutch if desired.

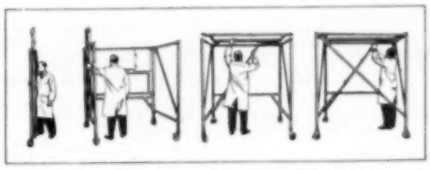
Major elements consist of a converter pump, reaction member and converter turbine. Each is a single-piece vane-equipped aluminum casting. Torque multiplication is highest at zero output speed. It gradually decreases as output speed increases until a point is reached where output and input torque are equal. The engine operates at practically constant speed during this converter range so overload will not cause stalling. When the torque ratio is equalized the reaction member floats freely and the assembly acts as a hydraulic coupling. In this range the output speed increases in nearly direct proportion to increase in engine speed.

The transmission is particularly suited for application on construction equipment, locomotives, material handling equipment. Oil employed in the hydraulic circuit also lubricates the bearings and then flows back to a reservoir.

If you write maker identify as IEN - 10745

SCAFFOLD . . Portable aluminum hinges open or closed to use or store

Source: PATENT SCAFFOLDING CO.
38-23 12th St., Long Island City 1, N. Y.



Open it up when you want it

One man, in about 60 seconds, can hinge the sides of this new Fold-A-Way scaffold open from the back, swing the top frame up, also from the back, hook it in place to lock the sides and hinge the combination brace and ladder to hook into and lock the top. He can follow by erecting as many superimposed sections as required to reach a desired height. The feet on the base section are adjustable for uneven floors. Rolling and swivel wheel action can be locked.

Base sections, full and one-half intermediate sections and guard rail sections are available in the line. Major members are 2-in. aluminum tube. The aluminum casters have 5-in. rubber tired anti-friction wheels. The base section measures 54 by 72 by 82 in. including the casters. The intermediate section is 72 in. in height. The half section measures 39 in. and the guard rail adds 42 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10746

American industry — keeps expensive equipment operating at capacity

Another good American industrial habit—stepping-up the hourly output of machines!
By delivering a stream of material and parts to machine operators, and dispatching the product to the next operation, Logan equipment is one of the chief factors in "keeping machines busy."
And remember, the name "Logan" on the installation you buy is your assurance of something extra in engineering, design and layout. Write today to—

Logan Conveyors
LOGAN CO., 276 CABEL ST., LOUISVILLE, KY.

If you write maker identify as IEN - 10747

Write for this free catalog

This complete catalog gives full details on L&N Optical Pyrometers, with ranges of 1400 to 5200 F and 775 to 2800 C. The catalog describes the use and special features of the instrument, gives specifications and sums up the principles of optical pyrometry, all in 16 pages. Just ask for catalog N-33D from our nearest office or from Leeds & Northrup Company, 4908 Stenton Avenue, Philadelphia 44, Pa

LEEDS & NORTHRUP CO.

JH A4 N-33D-10

If you write maker identify as IEN - 10748

Have YOU sent in? EVERYONE else has

Frankly, we've been amazed at the interest in our new book on TENSION LINKAGE. We've been literally swamped with inquiries . . . have exhausted two printings . . . have a third on the press. If you haven't already requested your copy, we suggest you do so today.

You'll find it of real value if you design lift trucks, hoists, counterweight suspensions, controls or any type of equipment that must transmit pull or lift. *Send for your free copy today.* Chain Belt Company, 558 Plainfield St., Springfield 2, Mass.

BALDWIN-REX ROLLER CHAINS
A PRODUCT OF **Chain Belt** COMPANY OF MILWAUKEE

If you write maker identify as IEN - 10749

EVERY STEP A SAFE STEP WITH **BLAW-KNOX GRATING**

Everyone walks safely, confidently on Blaw-Knox Electroforged Steel Grating . . . the one-piece panels stay rigid and strong—without shimmy or shake—because there are no parts to work loose. Twisted cross bars provide sure footing under the most adverse conditions. For complete information, write for Bulletin 2565.

BLAW-KNOX GRATING
Industry's first choice for
• SAFETY • STRENGTH • LONG LIFE
• LOW UPKEEP • SELF-CLEANING

Grating Department
BLAW-KNOX DIVISION of Blaw-Knox Co.
2050 Farmers Bank Bldg.,
Pittsburgh 22, Pa.

BLAW-KNOX ELECTROFORGED STEEL GRATING

If you write maker identify as IEN - 10750

If you write maker identify as IEN - 10751

MORE PRODUCTION + MAN-HOUR and OIL SAVINGS

WITH LOW COST TRICO AUTOMATIC OILERS

- INCREASE PRODUCTION
- SAVE MAN-HOURS AND OIL
- ELIMINATE DOWN-TIME FOR WASTEFUL "TRUST-TO-LUCK" HAND OILING
- REDUCE COSTLY BEARING FAILURES
- PROLONG MACHINE LIFE

You can EASILY eliminate costly, daily hand-oiling by the simple application of TRICO Oilers and SAVE THEIR LOW COST MANY TIMES OVER. . . . Don't let these "hidden" costs of "trust-to-luck" hand oiling take money from you:—

- Cost of Labor to Apply
- Frequency of Application
- Lost Production Time
- Costly Power Loss Due to Excessive Belt Pull
- Premature Wear and Parts Replacement
- Shortened Equipment Life
- Fire & Accident Hazards

Remember, LOST production means LOST PROFITS too. Lubricate the automatic TRICO way.

WRITE FOR FREE CATALOG

TRICO FUSE MFG. CO. Milwaukee, Wis.

If you write maker identify as IEN - 10752

FREE Repair Handbook

40 PAGES

170 ILLUSTRATIONS

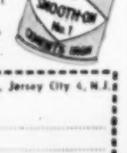
Here are a few of the many Smooth-On repairs for plant, shop, and home found in this pocket-sized handbook:

- Sealing cracks and leaks in pumps, heaters, apparatus, piping.
- Tightening loose parts of apparatus, fixtures, tools.
- Stopping leaks in basement walls.
- Repairing cracked concrete floors.

Write for your free copy of the Smooth-On repair handbook today. The simple directions and clear pictures will help you to make hundreds of time-saving, money-saving repairs.

ONE OF THE TEN SMOOTH-ON REPAIR CEMENTS

Smooth-On No. 1, used on iron, steel, brass and other metals, is a quick hardening repair cement that comes in 7 oz., 1, 5, 20, or 100 lb. sizes. If your supply house hasn't it write us.



SMOOTH-ON

Smooth-On Mfg. Co., Dept. 1 570 Communipaw Ave., Jersey City 6, N.J.
Please send me FREE Repair Handbook.
Name
Address
City State

If you write maker identify as IEN - 10753

ROCK DRILLING . . Carbide tipped tool with spiral flutes for use in masonry

Source: CARBOLOY
11167 E. 8-Mile Road, Detroit 32, Mich.

For concrete, brick, slate, plaster, asphalt

Dust is cleared from a hole being drilled with this new carbide tipped tool by the action of the shallow flutes on the body back of the point. The tip overhangs the flutes to agitate the dust and start it on its way. The tip provides the required hardness to cut into the masonry. Standard sizes range from 7/16 to 1/2 inch. Larger sizes can be ordered. The standard units carry 1/4-in. shanks to fit in the chuck of a portable tool. The drill is sold in single units and also in selected sizes in sets.

If you write maker identify as IEN - 10754

SAWING . . Hand hacksaw blade, 10 and 12 in. sizes for general use

Source: W. O. BARNES CO.
1295-99 Terminal Ave., Detroit 14, Mich.

$51 and $61 per hundred

Only the teeth of this new Rocket hand hacksaw blade are hardened. The back is semi-hardened so it will take sudden accidental twists without shattering. Application can be made on a variety of metals and shapes. Four tooth pitches range from 14 to 32 per inch. Packaging is 100 blades per box. Blade width is 1/2 in. in both 10 and 12-in. lengths.

If you write maker identify as IEN - 10755

MARKING . . Adhesive tape applicator to mark aisles and areas in a plant

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier St., St. Paul 6, Minn.

List is $24

Self-adhesive tape, the company's Scotch brand plastic film No. 471, previously described IEN-6311-51, is applied in laying floor lines by this new wheel type unit. It takes a roll of the tape which it passes under a roller at the rear of a guide wheel. It lays the tape evenly over the floor. The tape is available in seven colors and in widths of 2, 3 and 4 in. by 4 mils in thickness. It can be lifted to alter marked off areas without leaving a trace of the former line. Length of tape in a roll is 36 yards.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10756

If you write maker identify as IEN - 10757

The Largest Producer of DIE CUT STAMPINGS IN SMALL LOTS

Present Production 450-500 NEW DIES PER MONTH

Leadership built on excellent quality and fine service at lowest possible cost.

SEND YOUR PRINTS OR SAMPLE BLANKS FOR QUOTATION

DAYTON ROGERS Manufacturing Company

2836 13th Ave., S.
MINNEAPOLIS 7
MINNESOTA

If you write maker identify as IEN - 10758

MARMAN SUPPORTS

For Ducting, Fuel, Hydraulic or Air Lines and Wiring Assemblies

Marman Supports are light, strong, and corrosion-resistant. They provide secure mountings that allow for quick assembly or disassembly, yet hold tight under conditions of stress or vibration. Lugs, clips or brackets can be attached to Marman Clamps to make Supports which will hold hydraulic lines, wiring, etc.

Marman Supports often can be used in place of traditional screw or bolt mountings to save weight, cost and installation time. They are supplied with patented "Quick Coupler" or T-Bolt tension screws for maximum ease of assembly or disassembly.

WRITE DEPT. I-10 for complete information on Marman Supports

MARMAN PRODUCTS CO., INC.
940 WEST FLORENCE AVENUE
INGLEWOOD, CALIFORNIA

If you write maker identify as IEN - 10759

If you write maker identify as IEN - 10760

Parker-Kalon GROUND THREAD Socket Set Screws

SET RIGHT with SHOP MEN

RIGHT START
Quick starting. Speed assembly work and improve production.

RIGHT FINISH
Made from hardened stock. Smoothness of a true ground finish.

RIGHT FIT
Free from nicks, burrs and tool marks. Dependable Class 3 fit.

RIGHT BUY
More for the money — in quality — in performance.

SEE FOR YOURSELF!
Send for Samples. Notice how much smoother (and easier starting) P-K® Quality Controlled Socket Set Screws are, the way they "set up" to dependable security. Once you try 'em, you'll use them regularly — to speed assembly work. Write for samples. Parker-Kalon Corp., 200 Varick St., New York 14, N. Y.

P-K

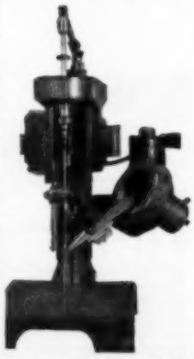
PARKER-KALON®
cold forged
SOCKET SCREWS

Size Marked Socket Head Cap Screws • Ground Thread Socket Set Screws
Flat Head Socket Cap Screws • Stripper Bolts • Pipe Plugs • Hex Keys
Available Everywhere Through Accredited Distributors

If you write maker identify as IEN - 10761

What's Wrong With This Picture?

THAT'S EASY There's NO DETROIT POWER SCREWDRIVER!



● Now—more than ever—speed in production is the order of the day—and D. P. S. Power Screwdrivers provide a wonderful contribution to present-day industrial needs . . . They are a "must" wherever the program calls for production assembling . . . They afford a tremendous gain over obsolete, slow hand methods. Detroit Power Screwdrivers will drive screws—any kind of screws—as fast as one a second.

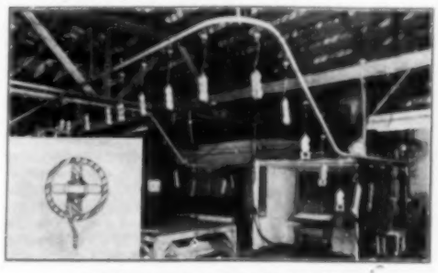
● Get our Catalog NOW, describing POWER SCREWDRIVERS, MOTORIZED HOPPER UNITS, NUT DRIVERS and SPECIAL ASSEMBLING MACHINES. Write today. Also send sample assembly for production estimate.

DETROIT POWER SCREWDRIVER CO.
2815 W. FORT ST. DETROIT 16, MICHIGAN

If you write maker identify as IEN - 10763

CONVEYING . . Tube enclosed chain with load supports at 6 in. intervals

Source: U. S. SPRING & BUMPER CO.
4949-53 Alcoa Ave., Los Angeles 58, Calif.



Up, down, over, around at 3 to 9 fpm.

The company announces purchase of the Chainveyor, previously described IEN-7715-51, and present availability of an improved design to carry work between various plant locations and through processing operations. The conveyor is designed for loads to 30 lb. at 6-in. intervals or to 60 lb. at 12-in. intervals when two of the load carrying pendants are joined together with a cross bar. Forward movement is by a power drive that will operate any closed circuit requiring a chain pull of not more than 400 pounds. Additional power units can be applied as required.

The steel tube forming the track is supplied in combinations of straight sections, horizontal and vertical curves. The chain assemblies inside the tube with the load supports extending downward from alternate links. These links are 3 in. in length and are joined by universal type bronze swivel blocks and pins.

The track is supplied in standard 15-in. radius curves with track length at 2½ ft. for a curve covering 90 degrees. Track weight is 2 lb. per foot. The chain weighs 1 lb. per foot including the load support. A take-up section is based upon a 180-deg. curve. It telescopes into two straight runs and is backed by springs. This unit provides 12 in. of take-up.

If you write maker identify as IEN - 10764

TRUCK . . Turntable design to handle long rolls, rides on a track

Source: ENGINEERING PRODUCTS CO.
120-24 S. Michigan Ave., Dept. A, Chicago 3, Ill.

Base is structural steel and plate

Tote Truck is a new four-wheel car unit equipped with a V-type load support mounted centrally on a ball-bearing turntable. The truck is intended for use in pairs to operate on a track and carry long machine rolls from one plant location to another. The turntable permits movement around curves. Load capacity is subject to specification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10765

HOW TAPE CUT COSTS 20.5%

A switch from paper masking tape to new cloth-back Polyken No. 149 cut tape costs 20.5% for a Chicago moulding manufacturer, who tape-shields polished surfaces of soft metal mouldings to protect them during bending, fabricating and shipping. The manufacturer also found No. 149 conforms more closely to curved surfaces, pulls off continuously, quickly and easily after mouldings are installed, and leaves no gummy residue.

Ask your *Polyken* distributor or write for free booklet, "Tape is a Tool". Address *Polyken*, Dept. IE-K, 222 W. Adams Street, Chicago 6, Illinois.

Polyken®

INDUSTRIAL TAPES
Polyken Industrial Tape, Department of Bauer & Black, Division of The Kendall Company

If you write maker identify as IEN - 10766

Detailed photo and overall drawing of a recent Sta-Warm compound melter of 1,000 gal. capacity.

Large or Small

Sta-Warm BUILDS THEM ALL

From a half-pint wax dropper that is hand held, to the 1000 gal. rectangular compound melting tank above . . . and any size in between . . . Sta-Warm builds them all.

And all are built to the same "basic" specifications of wide distribution of low-wattage heat that melts material efficiently, fast, uniformly . . . without burning or carbonizing.

In the large tank shown, more than 17,000 ft. of resistance wire was wound into 4,450 ft. of heating element and this was evenly wound around entire side wall and bottom areas of this tank. The photo shows a workman making the last of 1000 terminal block connections so only the filled part of the tank will have heat applied to keep the compound melted.

Do you need a thousand gallon tank . . . or a half-pint heater? Better write Sta-Warm *first*.

Sta-Warm ELECTRIC CO.
360 N. CHESTNUT ST., RAVENNA, OHIO

If you write maker identify as IEN - 10767

NEED COPIES?

MODERN MIMEOGRAPHING—New equipment and supplies for the fast production of copies on a wide variety of paper and card stocks. A. B. Dick mimeograph products are for use with all makes of suitable stencil duplicating products.

MODERN OFFSET—A. B. Dick lithograph direct image plates and masters provide for (1) longer runs with sharp definition—(2) easier corrections—(3) more successful filing—(4) marked superiority in resistance to fingerprints.

MODERN SPIRIT DUPLICATING—A. B. Dick CLEEN-SEAL master sets and spirit carbons guard against stains and smudges. Available in a variety of sizes for long, medium and short runs. Five brilliant colors—purple, red, green, blue and black.

Write Dept. IEN 1052 for full information—or call the A. B. Dick Distributor listed in the classified section of the phone book.

A·B·DICK
THE FIRST NAME IN DUPLICATING
A. B. Dick Company • 5700 Touhy Avenue • Chicago 31, Illinois

If you write maker identify as IEN - 10768

NEW VITROHM Ring Type RHEOSTATS

25 and 50 Watt

Bulletin 1110 Vitrohm Ring Type Rheostats set a new standard for smooth control, in both fixed and variable current control applications.

Ceramic core and base are bonded by Vitrohm enamel. Special alloy resistance wire is toroidally wound and held permanently secure by enamel. Design of drive shaft and contact arm eliminates backlash assuring uniform contact pressure and smooth operation.

Ratings: – 25 watts from 1 to 2500 ohms
50 watts from 1 to 7500 ohms
Based on 300°C rise in 40°C ambient, NEMA and U.L. Inc. standards.

Standard Resistance Tolerances: +20, –10 percent

Write for Vitrohm Rheostat Bulletin 1110. WARD LEONARD ELECTRIC CO., 33 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Resistors · Experienced Controls Since 1892
RESISTORS · RHEOSTATS · RELAYS · CONTROL DEVICES

If you write maker identify as IEN - 10769

SYNTRON

SELENIUM RECTIFIERS

Made by a new process to a uniform, high quality for continuous, heavy-duty service.

One inch square to 12 by 16-inch cells in standard stacks or for customer assembly.

Write For FREE Catalog Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN - 10770

Be Sure your cranes are safe . . . use Wagner Crane-Bridge Brake Systems

Wagner Hydraulic Brakes provide even the heaviest cranes with controlled deceleration and smooth, precise stops . . . as accurate and easy as braking an automobile . . . and just as safe.

If your cranes are not equipped with Wagner Brakes, we can show you how simple it is to install a modern hydraulic system. If you now have old-style Wagner Brakes, your system can be quickly modernized with our complete conversion kits. Bulletin BU-40 gives complete information—write for your copy.

Only Wagner Hydraulic Braking Systems give you all these features:

- New Combination Service and Parking Brake
- New Remote Control Bleeder
- New Self-Centering Device
- New Systems easy to install
- Old Systems easily modernized

Wagner Electric Corporation

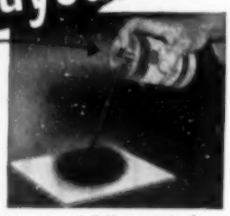
6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

If you write maker identify as IEN - 10771

Now Spray On design layout ink

"JUST PRESS THE BUTTON ON THE CAN"



Faster! Easier!

No brush, no waste, no mess! Self-pressurized can sprays on CROWN Design Layout Ink in fine mist that dries to hard surface in a minute. Dark blue is standard—other colors on volume purchases.

ORDER TODAY!
$1.59 PER 12-OZ. CAN
1% discount on case of 12
Additional discount for large quantity
FOB Sycamore, Illinois

CROWN INDUSTRIAL PRODUCTS CO.
402 Bordon Ave., Sycamore, Ill.
Please ship at once
_____ (how many?) cans
_____ (how many?) cases
CROWN Design Layout Ink
Name
Company
Our Purchase Order No.
Address
City Zone State

If you write maker identify as IEN - 10772

CLEANING . . Degreasing equipment uses standard steel drum as the tank

Source: CURRIER CO.
708-12 73rd Ave., Oakland 4, Calif.

Plugs in anywhere

Steel drum, supplied by the user, mounts in the circular base of this new Drum Major vapor degreaser. Electric heating elements in the base are free from caking or clogging in dirty solvent and from damage due to objects dropped into the tank. The equipment employs any standard vapor degreasing fluid. It mounts its condenser and controls in the rectangular housing standing beside the base. A thermostat controls correct vapor level. No water is required.

Operation is on 220-volt 60-cycle ac. with input at 3,500 watts. An initial solvent charge in the 55-gal. drum is 5 gallons. The drum is supplied when specified.

If you write maker identify as IEN - 10773

PRINTING . . Photographic paper for production of positive prints

Source: EASTMAN KODAK CO.
341-45 State St., Rochester 4, N. Y.

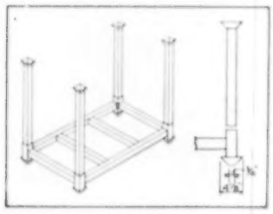
To enlarge or reduce

Kodagraph projection positive paper has been developed for use in a process camera to make direct reduction positives from large drawings or to produce positive prints from positive microfilm records in connection with an enlarger. The paper requires a special developer. It is available through the company's industrial dealers.

If you write maker identify as IEN - 10774

HANDLING . . Tubular steel rack with socket feet for secure stacking

Source: PALTIER CORP.
1703 Kentucky St., Michigan City, Ind.



Each to order

Pyramid designates new rack which the company is prepared to supply in specified sizes and load carrying capacities as well as detail design for work handling and stacking. Square tubular posts slip fit into corner fittings. Pyramid shaped sockets at the top and bottom to center the units in stacked arrangement. The pyramids are available for racks now in service to fit any square post to 3½ in. so these racks also can be employed in stacking service. Floor and side enclosures are available.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10775

METAL FABRICATION PROBLEMS?

RIGID-tex METALS

VERSATILE RIGID-TEX METALS can be used to advantage in nearly every industry. Design engineers have used its high strength and light weight in products throughout the railroad, aircraft, automotive, electrical, home appliance, architectural, radio, military, and industrial equipment fields.

RIGID-TEX METAL is used extensively because it is three-dimensional design-strengthened and textured to conceal wear and tear, reduce maintenance costs, resist impact, conserve metal and minimize buckling. It can be fabricated by all usual methods. Any way you use RIGID-TEX METAL, you'll find it an important contributor to the value of your product.

WRITE on your company letterhead for a copy of the WORKABILITY Folder today

U.S. & Foreign Patents

Rigidized Metals Corporation

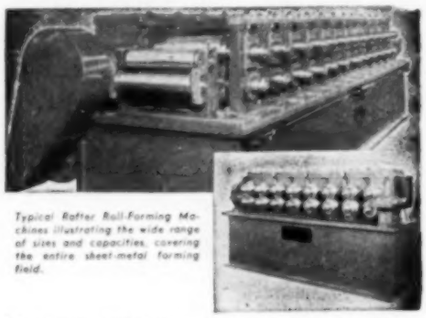
66410 OHIO STREET BUFFALO 3, N. Y.

Offices in Principal Cities in the U.S. and Canada

If you write maker identify as IEN - 10776

RAFTER COLD METAL ROLL-FORMING MACHINES

Correct Design for Maximum Efficiency



Typical Rafter Roll-Forming Machines illustrating the wide range of sizes and capacities, covering the entire sheet-metal forming field.

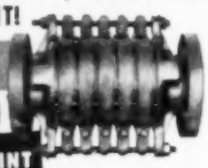
Patented balanced gear drive mounted on roller bearings distributes power efficiently to each pair of rolls . . . Gear ratio is a continuous reduction from drive shaft to roll shaft, quiet, efficient and compact. This drive consumes less power than any other type . . . Exclusive design permits greatest vertical adjustment of the upper roll spindles without the aid of square gearing or small complicated gears . . . Design permits quickest and most accurate change of rolls possible. Shafts always remain parallel. Adjusting screws connect front and rear bearings . . . Low power consumption, lasting accuracy, longer roll life, and higher output are made possible by these and many other features.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street • Belleville 9, N. J.
GANG SLITTERS and PRESS BRAKE DIES

If you write maker identify as IEN - 10777

GREATER PIPE LINE MOTION CONTROL IN A MORE COMPACT, LESS COSTLY EXPANSION JOINT!

THE NEW FLEXON EXPANSION JOINT



Continuing research and development at Flexonics Corporation now make it possible for Flexon Expansion Joints to offer three basic advantages.

1. The face-to-face (over-all) dimension of a joint to handle a given amount of expansion has been reduced.
2. Lower expansion joint cost to handle a given amount of motion.
3. Maximum of motion commensurate with optimum life.

Complete specifications are given in the new Flexon Expansion Joint Bulletin. Write for your copy, today.

CMH

CHICAGO METAL HOSE
DIV. FLEXONICS CORPORATION
1333 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

If you write maker identify as IEN - 10778

Get 19" Lift from 2½" Clearance!

SIMPLEX RATCHET LOWERING JACKS

Lift or Lower Notch-by-Notch—Cannot be Tripped

With Simplex Ratchet Lowering Jacks a minimum of toe clearance is required—and only Simplex Jacks provide equal lift capacity on toe or cap. In fast jacking action, all-purpose utility, extra safety features and rugged strength for longer life, Simplex Ratchet Lowering Jacks give you more for your money! Capacities of 1½ to 35 tons. Write today for Bulletin: Industrial 49.

SAFETY SUGGESTION—Use thin wood block—don't lift or lower steel against steel.

Simplex LEVER · SCREW · HYDRAULIC Jacks

TEMPLETON, KENLY & CO.
1012 S. Central Avenue • Chicago 44, Illinois

If you write maker identify as IEN - 10779

good tie-up
for any industry:
AMERICAN *flexible*
metal connectors

For connectors that will last through vibration, heat, pressure, etc., figure on AMERICAN Flexible Metal Hose and Tubing. For over forty years they have done a good job of conveying air, oil, steam, gases, liquids, dust, etc. Variety of hose patterns, alloys, fittings, sizes. Easily installed, little maintenance.

Write for Quick Reference Catalog CC-300. The American Brass Company, American Metal Hose Branch, Waterbury 20, Connecticut. In Canada: The Canadian Fairbanks-Morse Company, Ltd.

wherever connectors must move ..... *American* ANACONDA

METAL HOSE AND TUBING

If you write maker identify as IEN - 10780

Heat it BETTER and FASTER for *LESS!*

with
CHROMALOX
Electric HEATING UNITS

USE CHROMALOX Electric HEATING UNITS *for efficient and accurate heat to fit your EXACT needs!*

Chromalox Heaters give you fast, uniform, "on the spot" heat at low initial cost and low operating costs in hundreds of applications. They come in types, sizes and capacities to fit every specific production need. Check their time and money saving advantages now! On-the-job engineering service without obligation.

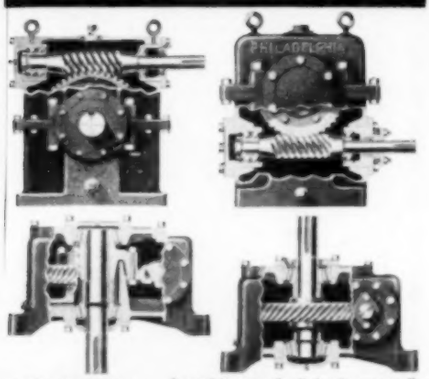
For details on Chromalox Heaters
Send for the valuable, informative Catalog 50. It lists many of the more than 15,000 types, sizes and ratings of Chromalox Electric Heaters for hundreds of uses.

EDWIN L. WIEGAND CO., 7505 THOMAS BOULEVARD, PITTSBURGH 8, PA.
See Chromalox Radiant Heating Advertisement, Page 5

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 10781

For Right Angle Drives
HORIZONTAL OR VERTICAL



PHILADELPHIA WORM GEAR SPEED REDUCERS

A complete range of unit sizes to cover applications from ¼ to 265 H.P. Ratios from 3⅝ to 1 to 6300 to 1. Our latest catalog WG-51 shows complete details. Please write on your business letterhead.

PHILADELPHIA GEAR WORKS, Inc.
ERIE AVENUE AND G STREET • PHILADELPHIA 34, PA.
NEW YORK • PITTSBURGH • CHICAGO • HOUSTON • LYNCHBURG, VA.

If you write maker identify as IEN - 10782

HEAT TREATING . . Electric furnace for controlled atmosphere tempering

Source: IPSEN INDUSTRIES INC.
713-17 S. Main St., Rockford, Ill.

Particularly for production

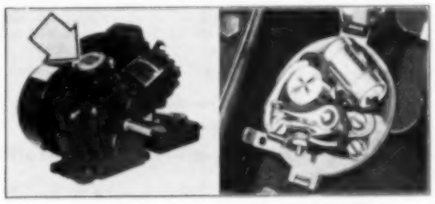
Bright work, free from scale, or work with a blue oxide coating can be produced by this new controlled-atmosphere electric furnace. Its operating range is between 400 and 1,400 deg. F. It is known as Type D-300. Two sizes have interior dimensions at 24 by 36 by 12 or 18 in. and 30 by 48 by 20 inches. Current input is 27 and 42 kw.

The controlled atmosphere is introduced through a connection in the side of the sealed housing where it is picked up by a circulating fan and driven through the electric heating elements and then through, under, and over the work in a closed circuit. A load of work is cooled in the furnace until it reaches about 400 deg. F. for bright scale-free operation. A predetermined quantity of water is introduced during the tempering cycle for a specified period after the load heats or cools to the oxidation temperature for blue coating. The work is then removed from the furnace and air cooled or liquid quenched. Air cooling produces a blue gray coating. Oil quenching forms a darker blue black finish. Either soluble oil or standard quenching oil can be employed.

If you write maker identify as IEN - 10783

ENGINE . . Single cylinder unit, air cooled, ratings ¾ to 2½ hp.

Source: CONTINENTAL MOTORS CORP.
12802 Kercheval Ave., Detroit 14, Mich.



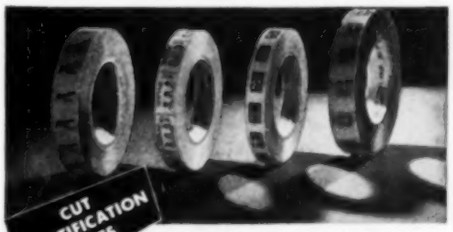
Arrow indicates ignition mechanism

New design of the company's air-cooled industrial engine, previously described IEN-7839-50, mounts the breaker points and condenser as an external unit on top of the crankcase and drives the cam which actuates the points off the camshaft. It is no longer necessary to remove the shroud and flywheel when these parts require inspection, adjustment or repair, as it was in the original design in which they were housed within the flywheel itself.

An access cover protects the mechanism. It can be removed and replaced quickly. The breaker points operate at one-half engine speed in the new design. The Series-AU air cooled engines in the line make the new design available in connection with a mechanical governor of flyball type. This unit is housed under the same cap as the condenser and points.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10784



CUT IDENTIFICATION COSTS

with BRADY Printed Self-sticking ROLL TAPES

SAVE OPERATORS TIME • ELIMINATE WASTE MOTIONS • GET QUICK, POSITIVE IDENTIFICATION

Label parts, pieces, assemblies, materials, etc., with Brady Printed Tape. Sticks to any clean, dry surface without moistening. Applied by hand or automatic dispenser.

Any wording, numbers, letters, trademarks or symbols printed to your order on cellophane, acetate fibre, paper or cloth tapes to fit your job requirements.

Choose from a variety of standard colors, roll lengths and widths.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

DISTRIBUTED IN 125 PRINCIPAL CITIES
MANUFACTURERS OF SELF-STICKING PRODUCTS

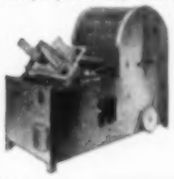
W. H. BRADY COMPANY
769 W. GLENDALE, MILWAUKEE, WISCONSIN

If you write maker identify as IEN - 10785

Cartons made in your plant SAVE TIME AND MONEY

Growing numbers of manufacturers are installing this automatic Carton Former. Our Model PA uses thrifty die-cut blanks to form cartons at speeds up to 102 per minute. These blanks provide great savings over factory-made cartons or hand set-up cartons. You can make your cartons just as you need them. . . . Avoid long waits. . . . Use less storage space. Requires only part-time supervision by one person. The versatile Model PA is easily adjusted for different sizes and can be adapted to handle various carton styles. Compact, too—occupies only 3' x 6' of floor area.

Write for further information



• CARTON DIVISION •

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS DENVER LOS ANGELES SAN FRANCISCO SEATTLE VANCOUVER WASH. TORONTO MEXICO D.F.

If you write maker identify as IEN - 10786

SAVE Chrome Plate Your Cutting Tools in Your Own Shop . . . **FAST**

Chromaster—revolutionary new industrial chrome plating method—already adopted by many leading firms to lengthen tool life, reduce downtime

With the demands on your own machinery more pressing, Chromaster means dollar savings to you. It enables you to increase tool life, salvage worn cutting tools and parts, reduce tool inventories, and lessen machine downtime.

Chromaster is the new industrial chrome plating machine which permits you to conduct your own plating operations, in small space, anywhere in your plant.

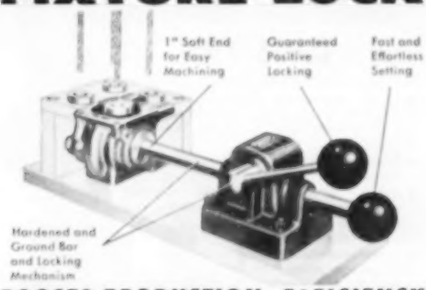
Compact, self-contained units can be operated at amazing speed — 5½ minutes for the average job. There's a size Chromaster for every need.

Send today for complete facts on Chromaster.

INDUSTRIAL CHROME DIVISION
WARD LEONARD ELECTRIC CO. *Chromaster*
33 South Street, Mount Vernon, N. Y.

If you write maker identify as IEN - 10787

ANNOUNCING!
HEINRICH SCREWLESS *Grip-Master*
FIXTURE LOCK



BOOSTS PRODUCTION, EFFICIENCY

Now—at the request of industry—we offer the new "Grip-Master" Screwless Fixture Lock, applicable for fixtures and jigs used in drilling, milling operations, etc. It incorporates the same high-quality locking mechanism proved by industrial use in the famous "Grip-Master" Screwless Drill Press Vise. Pays for itself quickly by increasing production, cutting tooling costs, etc. See your Dealer, or write for details.

NATIONAL MACHINE TOOL COMPANY
DEPT. 172-K • RACINE, WISCONSIN

If you write maker identify as IEN - 10788

"HELP ON WHEELS"!

LATEST DICO'S Free CATALOG EDITION

. . . Sure Speedy HELP On Your WHEEL PROBLEMS

The latest edition of the DICO Company's WHEEL CATALOG HELPS you by answering your high speed and low speed wheel engineering problems . . . with simplified information and specifications on your needs of dependable, highest quality DICO Wheels . . . Be sure YOU get this "HELP ON WHEELS"!

DICO COMPANY

Write TODAY!

A modern line of industrial wheels 6"-22" rubber diameter.

202 S.W. 16th ST., DES MOINES, IOWA

If you write maker identify as IEN - 10789

Chicago RIVET "912"

AUTOMATIC RIVET SETTER

CUTS COSTS 3 WAYS

1 FASTENS FASTER . . . Only the speed of the operator limits the 912's riveting speed. Completely automatic. A push on the foot pedal automatically feeds, inserts and clinches the rivet.

2 DOES WORK OF SEVERAL MACHINES Quick change rotary hopper and raceway makes the 912 adjustable in 5 to 10 minutes to set different size rivets. Adjustable anvil height and 12-inch throat provide further versatility.

3 SAVES ON MAINTENANCE . . . The 912 is massively built to stand the shocks of constant use and is designed for quick, easy servicing and parts replacement.

If your assembly calls for 3/16" steel tubular rivets or smaller, of ¾" lengths or less, ask us to show you how the 912 can cut your fastening costs. Send a sample of your problem assembly (or blueprint) for a free fastening analysis.

WRITE FOR FREE RIVET AND MACHINE CATALOG

See EXHIBIT National Metal Congress, Booth 1819, Oct. 20-24, Philadelphia.

Chicago Rivet & MACHINE CO.

9602 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois

Branch Factory: Tyrone, Pa.

If you write maker identify as IEN - 10790

Send Coupon Today for Your FREE Copy

"WHY IT PAYS TO ANCHOR YOUR MACHINES WITH UNISORB®"

Here's the book that tells you how to

- Avoid destructive floor-drilling with UNISORB machine anchoring . . . the modern way that needs no bolts, no lag screws.
- Eliminate 60%-85% transmitted machine noise and vibration.
- Achieve a safe, dependable machine mounting that lasts for years and years *with no maintenance.*
- Save time, expense and confusion when installing new machinery or repositioning present machinery.

The FELTERS Co.
210-1 SOUTH ST.
BOSTON 11, MASS.

Gentlemen:
Please send me free copy of "Why It Pays to Anchor Your Machines with UNISORB."

NAME
COMPANY TITLE
STREET
CITY & STATE

If you write maker identify as IEN - 10791

ELEVATOR . . Hydraulic ramp raises and lowers at shipping platform

Source: JOHN B. ILLO ENGINEERING CO.
2412-16 E. 57th St., Los Angeles 58, Calif.

Load rating is 10 ton

Hydraulic cylinder supports and provides vertical adjustment through a 24-in. movement at the forward end of this new loading ramp. The cylinder can be powered by hand or by a motor driven Viking hydraulic pump operating at 250 pounds. The ramp is available in 6 by 8-ft. and 8 by 8-ft. sizes to be recessed into a shipping platform or mounted on its own supporting structure in front of the platform. Height in the latter case is subject to specification.

Travel can be set for any amount above and below the platform level. The deck is surfaced with diamond pattern plate for traction. Counterbalancing springs take the weight of the moving parts so the ramp will not hinge downward in the event of pressure failure.

If you write maker identify as IEN - 10792

PAINTING . . Aluminum coating for use on roofs, contains asbestos

Source: SHEFFIELD BRONZE PAINT CORP.
17812-16 Waterloo Road, Cleveland 19, Ohio

One coat does the job

Shef-Kote trade names a new material in which asbestos fibers are combined with aluminum in a suitable vehicle. Brush application produces a film that protects the surface, flows into seams and cracks to seal them against leakage. As the coating dries the aluminum flakes float to the surface to form a waterproof heat reflecting exterior beneath which the coating remains in an elastic state that will not run, chip or crack in service.

If you write maker identify as IEN - 10793

PYROMETER . . Three scale ranges to 2,250 deg. F., also reads millivolts

Source: THERMO ELECTRIC MFG. CO.
482 Huff St., Dubuque, Iowa

New pyrometer is assembled in a carrying case with a set of leads measuring 8 ft. in length. The instrument is provided with three scale ranges maximum at 800, 1,600 and 2,250 deg. F. The scales also read maximum at 17, 36 and 50 millivolts. The pyrometer mechanism compensates for internal resistance changes due to variation in ambient temperature. Accuracy is within 1 per cent of scale reading.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10794

Bulletin 609 Manual Starters

- Silver alloy contacts need no maintenance
- Generous wiring space in white interior

An Allen-Bradley Bulletin 609 across-the-line starter saves maintenance time on any machine. Contacts never need cleaning, filing, or dressing—they're always ready for action. Strongly built for years and years of trouble-free operation. Thermal breakers provide reliable motor overload protection. Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY QUALITY MOTOR CONTROL

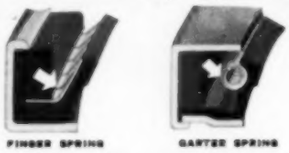
If you write maker identify as IEN - 10795

GARLOCK

Klozure Oil Seals

with FINGER SPRINGS or GARTER SPRINGS

for every bearing application



FINGER SPRING GARTER SPRING

There's a service-tested Klozure model with your choice of spring for every bearing application. For dependability, efficiency, and economy protect your bearings with Garlock Klozures. Write today for Klozure Catalog No. 18.

*Registered Trademark

THE GARLOCK PACKING CO.
PALMYRA, NEW YORK
In Canada: The Garlock Packing Company of Canada, Ltd., Toronto, Ontario

GARLOCK

If you write maker identify as IEN - 10796

LIKE AN ATOM-IC EXPLOSION

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately 95,000 gallons of water yearly—costing:

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gallons costs approximately:

$80.91 if coal (9679 lbs.)
$91.08 if oil (792 gals.)
$84.51 if gas (84,451 cu. ft.)

Above figures authenticated by Pennsylvania Water Co. and American Gas Association.

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with "SEXAUER" "Easy-Tites" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.

"EASY-TITE" Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300° F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW "SEXAUER" CATALOG,

Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring this and your NEW Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. K-108
2360-66 Third Avenue, New York 51,

as advertised in THE SATURDAY EVENING POST

SEXAUER

WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

If you write maker identify as IEN - 10798

First and Only! Pocket Comparator

Saves time and money inspecting small dimensions . . .

Nothing else like it! A precision optical measuring instrument for fast, accurate inspection of small dimensions. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as radii, angles, chamfers, threads and small holes on production parts.

PRICE $36.00
ORDER TODAY

A product of BELL & HOWELL CO. Distributed by

See Your National Tool Co. Representative in Local Yellow Pages

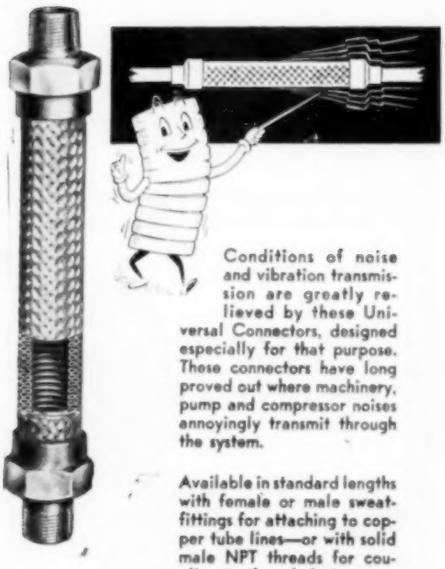
NATIONAL TOOL CO.

11230 Madison Avenue Cleveland 3, Ohio

Write for FREE descriptive folder

If you write maker identify as IEN - 10799

DAMPEN NOISE
ABSORB VIBRATION
with
UNIVERSAL VIBRATION CONNECTORS



Conditions of noise and vibration transmission are greatly relieved by these Universal Connectors, designed especially for that purpose. These connectors have long proved out where machinery, pump and compressor noises annoyingly transmit through the system.

Available in standard lengths with female or male sweat-fittings for attaching to copper tube lines—or with solid male NPT threads for coupling to threaded pipes.

Send us your problem for recommendations.

Ask for Catalog U-101 for your file.

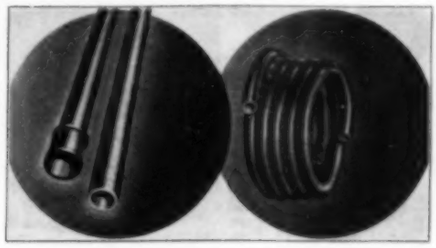
UNIVERSAL METAL HOSE CO.

2133 S. Kedzie Avenue • Chicago 23, Illinois

If you write maker identify as IEN - 10801

PIPE . . Flexible and rigid plastic with fittings, sizes 1 to 6 inches

Source: FRANKLIN PLASTICS INC.
U. S. Highway 322, Franklin, Pa.



Data for specified uses upon request

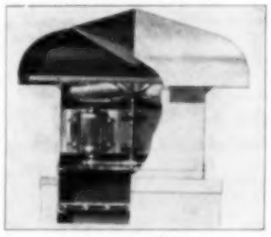
Dur-X trade names a new line of polyethylene flexible plastic pipe and of butyrate rigid pipe to handle a wide range of corrosive and non-corrosive fluids in general industrial service. The flexible pipe is available in coils from 125 to 500 ft. in length in diameters under 4 inches. Sizes from 4 to 6 in. are supplied in 25 ft. straight lengths. The rigid pipe is made in 20 ft. sections in all of its sizes.

Plastic fittings are available to make connections between two lengths of the plastic material or to connect between plastic and steel pipe. Sections are joined by using an inexpensive cement which is applied with a brush to the pipe and the fitting. No tools are required to make a joint that becomes as strong as the pipe itself. The pipe is not subject to rot or electrolytic attack, is light in weight.

If you write maker identify as IEN - 10802

VENTILATING . . Power exhauster discharges bad air, fumes through roof

Source: BURT MFG. CO.
927 S. High St., Akron 11, Ohio



Reverses to draw air in

Square outline and low assembly characterize this new Low Type motor driven roof ventilator. It is designed to rest upon a square curb and is available with either direct drive or belt connected motor. Fan sizes range from 12 to 60 in. in diameter. Sizes to 30 in. are hinged at the base so the complete housing and hood can be laid over for access to the motor, fan and bearings. A removable panel is mounted in one side for access to the larger units. The outlet hood also is hinged so it can be lifted and rotated to one side.

The motor is ball bearing design totally enclosed and available for standard current characteristics. It rates 1/20 to 7½ hp. Air delivery rating at zero static back pressure is 700 to 47,400 cfm. The housing is galvanized steel with load members made of formed sheet and structural steel. Aluminum, stainless steel or other materials can be specified.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10803

Realizing the importance of adequate fire protection, the International Harvester Company had a 250,000-gallon Horton suction tank installed to provide a reserve of water for the sprinkler system at its Broadview, Illinois plant. Fabricated and erected by the Chicago Bridge and Iron Company, this welded steel tank holds water in storage, ready for use any hour of the day or night.

Horton welded steel flat-bottom tanks and elevated storage tanks are an economical means of providing a reserve of water for any use. For quotations, write our nearest office, stating type of insurance, location, capacity and height to bottom for elevated tanks.

CHICAGO BRIDGE & IRON COMPANY

2123 McCormick Building • Chicago 4, Illinois

Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • San Francisco
Seattle • Tulsa • Washington, D. C.

Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

If you write maker identify as IEN - 10804

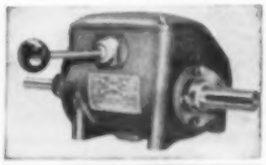
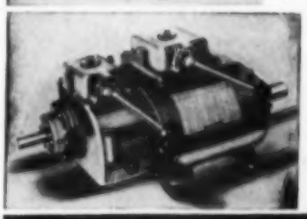


plate or platform mounting

9000-B (1-5 H. P.) 5 H. P. capacity with input speed of 900 r.p.m. **Gear ratios:** 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

8100-B (5-10 H. P.) 10 H. P. capacity with input speed of 900 r.p.m. **Gear ratios:** 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.



9300 (30 H. P. capacity with input speed of 900 r.p.m.) 8 speed Changes in Geometric Progression of 1.29 (Total reduction of 6:1).

Send for catalog and complete information

up to 50 h. p.

WESTERN TRANSMISSIONS

WESTERN MANUFACTURING CO. 1435 SCHUTTER AVENUE, MILWAUKEE, WISCONSIN

If you write maker identify as IEN - 10805

Now...Industry does big-truck jobs at small-truck cost with YALE *WORKSAVERS*

High Lift Platform Worksaver

SOLVE
TIME-SPACE PROBLEMS!
Move loads into and out of *any* storage or production area—easily and efficiently.

SOLVE
MANPOWER PROBLEMS!
Any man in your plant can transport, lift and stack multi-ton loads, safely—and surely.

SOLVE
COST PROBLEMS!
YALE ELECTRIC WORKSAVERS are low in initial cost and economical to maintain.

YALE WORKSAVER ELECTRIC HYDRAULIC POWERED HAND TRUCKS move right in—where big trucks are too big or too heavy. Yet, they give all the big-truck advantages at far less cost: forward and reverse power travel...power hydraulic lift...everything! That's why industry prefers YALE WORKSAVERS... the right answer to countless materials handling problems in every plant or factory.

CONTACT your Yale Representative to arrange a *free* WORKSAVER demonstration for you...right in your own plant or warehouse! See it lift and transport—through narrow doors, into elevators and freight cars, over low-load flooring—saving you time, money and manpower every hour—every day.

YALE

Yale is a registered trade mark of The Yale & Towne Mfg. Co.

MATERIALS HANDLING EQUIPMENT

Gas and Electric Trucks • Hand Trucks • Hand and Electric Hoists • Pal-Lifts • Worksavers

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Cutting costs with YALE WORKSAVERS interests me, too.
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Name_____ Title_____
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In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ont.

There's a Yale Worksaver to meet your every need!

If you write maker identify as IEN - 10807

Rolling Steel Doors

Manually • Mechanically • Power Operated

No other type of door offers as many desirable features as a good Rolling Steel Door . . . open or closed, they occupy no usable space inside or outside the opening. All metal construction assures permanence and a lifetime of continuous trouble-free service. Push-button controlled vertical roll-up action provides the quick, time-saving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type—comparison will convince you. See Sweet's File for complete information, or write for Catalog No. G-52.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

If you write maker identify as IEN - 10808

Tailor-Made Conveyor Systems

Increase Your Productivity While Lowering Costs With Webb Conveyors . . . Engineered To Meet Every Conceivable Mechanized Conveying Need.

Chassis Assembly Conveyor with continuous high tee-bars.

Typical of the versatility of Webb Conveying Systems are the chassis assembly conveyors in operation at one of the largest and most mechanized automobile plants in Detroit. For 25 years Webb has materially aided this manufacturer in maintaining production schedules and cost controls with installations such as these chassis assembly conveyors, which permit uninterrupted assembly to the chassis of rear axle, wheels, motor, gas tank and transmission.

Put to better use your Overhead, Floor or Underfloor Space . . . Let Webb Engineers Solve the Challenges Presented by your Most Complicated Materials Handling Problems.

Head End Section of Chassis Assembly Conveyor (notched tee-bar type).

CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
3919 ALPINE AVE. DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
FACTORIES IN DETROIT . . . LOS ANGELES . . . HAMILTON, ONT.

If you write maker identify as IEN - 10809

STOP DUST

***INSTANTLY* with DUSTKOP**

DUSTKOP 1400 cfm.

DUSTKOP 5600 cfm.

300 cfm to 10,000 cfm per unit (22 models)

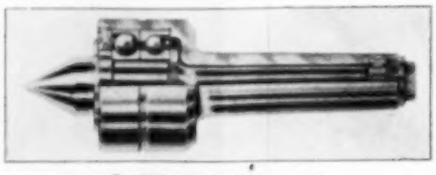
Standard pre-tested, available from stock. Ask for catalog 605-2. Describe dust problem for recommendation by return mail. No obligation.

AGET-DETROIT CO.
401 Main Street
ANN ARBOR, MICH.

If you write maker identify as IEN - 10810

LATHE CENTER . . Anti-friction design with No. 3 to No. 7 Morse taper shank

Source: READY TOOL CO.
554 Ironistan Ave., Bridgeport 5, Conn.



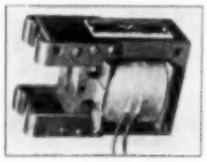
For high speed and heavy cuts

Ball bearing head to take the load and a roller bearing shank to maintain precise alignment characterize the construction of this new anti-friction lathe center. The ball bearings are preloaded. The sealed assembly prevents entrance of cutting oil or chips and retains the enclosed lubricant. The parts are made of heat treated steel. The point is high speed steel, ground after assembly. Female or special points are to order.

If you write maker identify as IEN - 10811

SOLENOID . . Short stroke design for operation in any service position

Source. TROMBETTA SOLENOID CORP.
327-31 N. Milwaukee St., Milwaukee 2, Wis.



To your order

Type NA-700 designates a new line of short stroke solenoids available to specification for operating characteristics, mounting dimensions, means for application. The units are available with a variety of pull curves ranging from one having a small pull at the open end of the stroke and a large pull near the sealing point to the opposite extreme. The company is prepared to propose a design upon receipt of installation and operating requirements.

If you write maker identify as IEN - 10812

CLAMP . . Molded Nylon to hold wiring, sizes 3/16 to 2 inches

Source: BURNDY ENGINEERING CO.
952 Richards Ave. N., Norwalk, Conn.

Nylselip is a new preformed molded Nylon hanger for use in wiring installations. It is not subject to attack by oil, gasoline, alcohol or hydraulic fluids including the new non-flammable types. It remains serviceable in temperatures between minus 60 and plus 250 deg. F. and is an excellent electrical insulator. Eleven sizes range from $\frac{1}{8}$ to 2 in. opening.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10813

NEW

The HANDY KNURLER

Save set-up time, operations and parts...Use Handy Knurler for individual knurling jobs—also for certain types of production work.

HAND OPERATED LIKE A PAIR OF PLIERS

HANDY KNURLER is used with lathe or drill press. Or hold work in vise and rotate Knurler around it. Concentric and off-center surfaces knurled with precision. Worn and undersized armature shafts, axles, spindles, pins enlarged to permit parts to be re-used. Knurled surfaces may be machined. Deep-Cut grooves retained to hold lubricants.

★ Quality heat-treated steel, blued for rust-protection. No other tool like it. Knurler complete set of 3 knurl rollers for medium diagonal patterns $12.50 postpaid. Different patterned rollers—$3.60 for set of 3. Order direct, or write for literature.

Dealer inquiries invited

M.P.A. CO., 1678 W. 17th PL., LOS ANGELES 6, CALIF.

If you write maker identify as IEN - 10814

CESCO *RIGHT... before your Eyes!*

Comfortable, Convenient . . . SAFE. CESCO Coverlite Goggles fit *right* over most regular glasses and rest gently on nose, brow and cheeks. Lightweight one-piece frames are clear transparent (#562) or green plastic (#556) and are fitted with clear Super Safety replaceable glass lenses. *Right* . . . for protection against impact. *Right* . . . for workers in your shop. CESCO Coverlite Goggles are *"RIGHT . . . before your eyes."* **Send TODAY** *for CESCO literature and name of your CESCO safety equipment distributor.*

CHICAGO EYE SHIELD COMPANY • 3926 Wabash Blvd. • Chicago 13, Ill.

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D. F., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

If you write maker identify as IEN - 10815

FOR MATERIAL HANDLING—

more and more—the swing is to wide-base pneumatic tires

GENERAL

INDUSTRIAL PNEUMATIC TIRES

***More Designers are specifying wide-base General Pneumatics.* They know Generals add these extra selling points to handling equipment.**

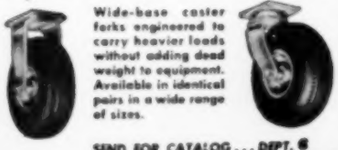
SAVE TIME • MONEY • LABOR

- *MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS*
- *CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE*
- *SAVE HIGH COST FLOORS AND FLOOR SURFACES*
- *SLOW, EVEN WEAR FOR LONG SERVICE*
- *HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND*
- *ROLLS EASIER, SMOOTHER OVER ALL SURFACES*

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid **CASTER FORKS** *Swivel*



Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG . . . DEPT. 6

THE GENERAL TIRE & RUBBER CO. AKRON, O.

If you write maker identify as IEN - 10817

18" HEAVY DUTY DRILL PRESS

...FOR BETTER HEAVY DUTY DRILLING

Get these important new drilling advantages with a Clausing 18" Drill Press. The 6½" spindle travel gives bigger job capacity, permits better use of production chucks. Drilling capacity: ¾" in steel, 1" in cast iron. Spindle nose is No. 3 MT. There's 6" to 15" *more* capacity from spindle to table. Spindle is bigger, stronger — handles larger tools. Exclusive vernier control provides .001" depth accuracy. Positioning mechanism saves set-up time — moves *both* head and table. Massive construction, precision-machining throughout, and the smoothness of 5 ball bearing races insure exacting accuracy on every operation. Contact your Clausing distributor, or write for catalog.

CLAUSING DIVISION

ATLAS PRESS CO., 10115 N. Pitcher Street, Kalamazoo, Mich.

If you write maker identify as IEN - 10818

Timely Facts and Features You'll Find in the NEOPRENE NOTEBOOK

- how you can reduce maintenance costs
- ways to solve many production problems
- new ideas on neoprene's wide range of uses
- technical help in specific applications
- details of new improvements in old products
- interesting new neoprene products

YOU'LL FIND PROFITABLE READING in every issue of the Neoprene Notebook. Each issue is packed from cover to cover with new ideas to save you time, trouble, and money. Put your name on our mailing list. Subscriptions are FREE.

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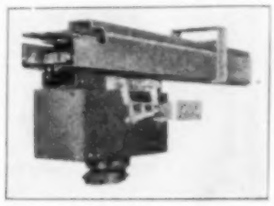
NEOPRENE
The rubber made by Du Pont since 1932
DU PONT

If you write maker identify as IEN - 10820

ELECTRIC DUCT . . Encloses bus bars and rolling trolley for power takeoff

Source: FEEDRAIL CORP.
123-27 Barclay St., New York 7, N. Y.



Ask for Catalog 30

Trolley Busway trade names new member in the company's line of electric duct equipment for continuous power supply to heavy moving equipment such as crane carriages and bridges. The new duct consists of copper bus bars enclosed in formed-steel sections in standard 10-ft. lengths with expansion sections, couplers, feed boxes, rain shields, dead-end caps and with wheel mounted trolleys. Duct ratings are 250, 375 and 500 amp. on 575-volt ac. single and three-phase, 250-volt dc.

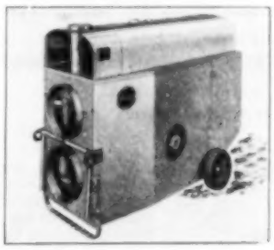
The trolleys are equipped with wheels riding beneath the duct to prevent lift upward against the bus bars inside. They ride on interior wheels on the bottom lips of the duct. They are prevented from slewing by vertical-axis wheels that ride in the opening between the bottom lips. The wheels are ball bearing design. The contacts are silver alloy brush type spring mounted. The bus bars and duct assemble to compensate for expansion and contraction.

Power outlet is from the bottom or side of the trolley and on the side is a pantograph type of mechcanical connection to secure the trolley to the moving equipment and compensate for misalignment as the equipment moves along. Polarized openings are provided in the side of the track to insert and remove trolleys.

If you write maker identify as IEN - 10821

HEATING . . Portable space unit burns kerosene, heats, circulates air

Source: HERMAN NELSON DIV.
1822-26 Third Ave., Moline, Ill.



Brochure "Heat on Wheels"

DeLuxe-I is a new unit in the company's line of portable space heaters. It burns kerosene in a stainless steel combustion chamber, exhausts products of combustion to a separate flue for outside connection or for release separate from the heated air stream. It draws in air, passes it over and around the chamber and delivers it through two 12-in. openings at the end of the housing. Flexible ducts can be connected to these delivery openings.

The heater measures about 56 by 32 by 50 inches. It has output rating of 280,000 to 450,000 btu. per hour. Its motor-driven fan rates 2,000 to 2,350 cfm. with temperature rise maximum at 154 deg. F. Fuel consumption is 3.2 gph. on full operation. The fuel is stored in a 16-gal. tank. Applications also include drying, thawing, preheating, ventilating.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10822

Counting and Packaging Small Parts . . .

One of the widest uses for EXACT WEIGHT Scales is counting and packaging hundreds of thousands of small parts. This highly necessary operation is best handled by pre-determined weighing. How accurately and how efficiently depends upon the equipment used. Illustrated is an EXACT WEIGHT Shadograph counting small gaskets in the Bendix Aviation Corp. plant. Tolerance is to one gasket plus or minus. Another large eastern manufacturer uses a like weighing unit with allied equipment for semi-automatic counting and packaging of aluminum rivets and screws. Our service department checking the installation advised the user reported doubling production over their previous hand operation. Do you have this type of packaging problem? There is EXACT WEIGHT equipment for every practical counting and small parts packaging operation in industry today. Write us!

EXACT WEIGHT Shadograph, electrically operated, counting small gaskets by weight. Bendix Aviation Corp., South Bend, Ind.

EXACT WEIGHT SCALES
Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

If you write maker identify as IEN - 10823

feature for feature...
THIS NEW SQUARE D VOLTAGE TESTER
Tops them ALL!

for further details, write Square D Company, 6060 Rivard Street, Detroit 11, Michigan

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

If you write maker identify as IEN - 10824

STOP ACCIDENTS with BRADY SAFETY SIGNS

Here's an AMAZING BRAND NEW SAFETY SIGN that will be welcomed by Safety Men! Brady Safety Signs stick to wood, glass, metal, concrete, etc. without moistening. May be applied to any clean surface in a jiffy. No screws, nails, bolts or skilled help necessary. All you do is peel from card, apply where wanted and the sign is up to stay.

Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

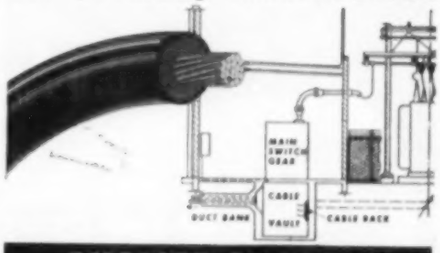
WRITE FOR Free SAMPLES and GIFTS CATALOG

MANUFACTURERS OF SELF-STICKING PRODUCTS

W. H. BRADY COMPANY
743 W. GLENDALE, MILWAUKEE, WIS.

If you write maker identify as IEN - 10825

for primary distribution



...OKOLITE-OKOPRENE

Keep your electrical circuits *strong*, free from weak spots which may disrupt production. For primary distribution cables, and *throughout* your plant circuits, specify Okolite-Okoprene wires and cables. Here's why:

Okolite *Insulation* stands up under heavy power loads, continuous use year after year.

Okoprene *Sheath* protects against abrasion, moisture, heat, oils and acids.

Insulation and sheath are applied by Okonite's strip process and vulcanized in a metal mold, giving greater stability and longer life to both. Write today for Bulletin IE -1053 to The Okonite Company, Passaic, N. J.

The best cable is your best policy

OKONITE *insulated wires and cables*

If you write maker identify as IEN - 10826

SYNTRON "Vibra-Flow"

PARTS FEEDERS

Let controlled vibration feed your small, medium or large parts . . . single file . . . in oriented position . . . at variable rates . . . without damage . . . to your inspection and counting devices and other automatic processing equipment.

Catalog data upon request. Or send details of your problem along with sample parts to . . .

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN - 10827

CHAINS AND SPROCKETS

Thousands of tough jobs call for Jeffrey Chains and Sprockets. They are in universal use for unit machinery, for conveyors, bucket elevators and for transmitting power.

You can't go wrong when you select Jeffrey Chains and Sprockets . . . they are being put through the acid test of actual service on thousands of tough jobs . . . and especially where the demand is for top-quality products.

A type and size to meet any requirement.

Send for Catalog No. A-418

JEFFREY
ESTABLISHED 1877
THE JEFFREY MANUFACTURING CO.
914 Fourth St., Columbus 16, Ohio

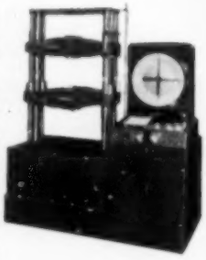
If you write maker identify as IEN - 10828

FROM DINNER BELLS TO MORTAR SHELLS

You can test practically *anything* with a versatile

RIEHLE

Universal Testing Machine . . . from small specimens with a relatively low-rupture-point to large, high-yield-point specimens. That's because every Riehle Pendomatic Universal Machine has 5 scale ranges — the equivalent of 5 testing machines in one. Ask your Riehle representative or write our factory for illustrated catalogs on Riehle Universal Testing Machines with hydraulic loading unit or screw power loading unit.



RIEHLE TESTING MACHINES
Division of American Machine and Metals, Inc.
East Moline, Illinois

If you write maker identify as IEN - 10829

WELDING . . AC arc machine also has a battery charging circuit

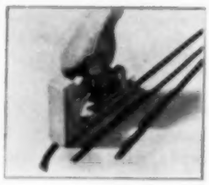
Source: MID-STATES WELDING MFG. CO.
6023-27 S. Ashland Ave., Chicago 36, Ill.

Model 175-BC is a new ac. machine particularly for maintenance work. It is characterized by inclusion of a rectified charging circuit for 6-volt batteries. Welding range is 15 to 175 amp. at 25 volts across the arc. Open circuit rates 65 volts. Input can be conected for operation on a 110 or 220-volt ac. line. The machine will handle electrodes from 1/16 to 5/16 in. diameter.

If you write maker identify as IEN - 10830

STAPLING . . Spring driven tool employs handle to cock and release

Source: HELLER CO.
2133-A Superior Ave., Cleveland 14, Ohio

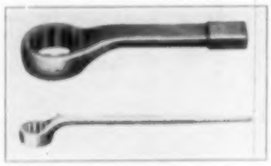


Special staples to secure tubing or electrical conductors to walls, floors, ceilings are driven by this new stapling tool. The staples range in leg length from 3/16 to 1/2 inch. They can be driven into wood, plaster, mortar, cinder concrete.

If you write maker identify as IEN - 10831

WRENCH . . Twelve point box type, long slugging and spud end designs

Source: PROTO TOOLS
2207-11 Santa Fe Ave., Los Angeles 54, Calif.



For heavy duty service

Fifteen sizes are available in the company's new design of slugging wrench with capacity ranging for bolts ranging from 1 to 2½ inches. The wrench has a built-up striking face and is reinforced where the shank joins the box end. It is shaped to provide a good grip for the user.

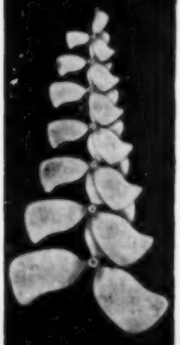
Seventeen spud end wrenches also have been added in a range of bolt sizes from 7/16 to 2 inches. The long tapered handles assist in aligning holes to take a bolt or rivet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10832

Kloppenborg (one piece) Cast Aluminum

EXHAUST and CIRCULATING FAN BLADES



INDUSTRIAL USE

Where air is to be moved — Kloppenborg one-piece high grade cast aluminum alloy fan blades are proving exceptionally efficient. Kloppenborg Fan Blades are purchased by many of America's leading industrial plants.

EIGHT SIZES

Kloppenborg Fan Blades are made in 8 sizes — from 12" to 36" — and are rated at 1750 RPM to deliver approximately from 1255 to 14,900 CFM. They are bored to most shaft specifications and are carefully balanced. YOUR maintenance men can install them easily.

Send today for a catalog on blades and all other parts needed for fans.

KLOPPENBORG ALUMINUM FOUNDRY
Established 1938
DAVENPORT 5, IOWA

If you write maker identify as IEN - 10833

NO SPRINGS TO BREAK in the Nutting JACK IT'S ALWAYS DEPENDABLE

The Nutting Jack is the ONLY jack operated entirely by gravity and leverage. With no springs to break, there is no danger of your whole jack-skid system suddenly being put out of service.

One lift truck and two dead skids cost about the same as two Nutting Jacks and twelve semi-live skids. That's one reason why the Nutting Jack and Skid system can be such a money-saver in your plant. Material stored on semi-live skids is made mobile in a hurry. The jack may be coupled to one skid, then uncoupled and coupled to another faster than the time it takes to tell about it.

Send for Bulletin 48-JS

Look in your classified phone directory for your Nutting representative, or write for Bulletin 48-JS. It will pay you to get all the facts on this superior Nutting Jack-Skid handling system.

Nutting makes everything in floor trucks, wheels, casters.

NUTTING TRUCK AND CASTER COMPANY
2013 Division Street Faribault, Minnesota

If you write maker identify as IEN - 10834

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . models for various purposes.

SOLD AT A LOW COST

. . . and the cost is especially low because it pays for itself many times . . . saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

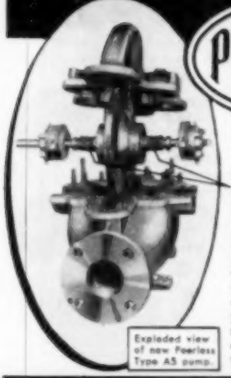
Be sure to write for illustrated literature and prices

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

If you write maker identify as IEN - 10836

THIS NEW HORIZONTAL SPLIT-CASE ALL PURPOSE PUMP HAS NO STUFFING BOX!

PEERLESS PUMPS



Exploded view of new Peerless Type AS pump.

New Peerless Type AS Pump is designed around mechanical shaft seals

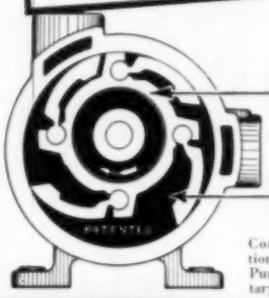
Write today for Peerless Pump Bulletin No. B-1350. Profusely illustrated with pump views, sectional and cutaway pump drawings, elevations and dimensional data. Mechanical shaft seals prevent water leakage, save space, cut maintenance costs, provide extra quality without a premium in price.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta; Dallas, Plainview and Lubbock, Texas; Fresno, Los Angeles; Phoenix; Albuquerque, N. M.; Tulsa

If you write maker identify as IEN - 10837

LEIMAN AIR PUMPS GIVE YOU *Greater Capacity!*



SMALLER PISTONS *provide* LARGER AIR SPACE

HINGED WINGS *take up their own wear*

Compare this cross-section of a Leiman Air Pump with any other rotary air pump. It is the working air space that counts—and Leiman provides 2 to 3 times more area, per size and weight of pump.

Handle air pressure, vacuum or suction jobs with much smaller Leiman Rotary Air Pumps. You save weight and space—run at lower r.p.m.—have fewer moving parts—no springs, gaskets or packing—no tips to renew—nothing to give trouble. Leiman patented leak-proof hinged wings maintain fully-rated pressure or vacuum for years and years.

What is your air application?

Send us details. Leiman engineers offer over 60 years' experience with thousands of air applications.

Catalog and Application Data sent on request

For Pumps—write DEPT. A

LEIMAN *Rotary* AIR PUMPS (Pressure — Vacuum)

Metal Cleaning and Finishing without acids or scratch brushes

Fast, low-cost, safe, uniform!

LEIMAN SANDBLASTS

Clean up scaly, rusty, rough surfaces—prepare better surface for plating, enameling or painting—stencil letters and designs—more rapid matte or satin finishes. Use unskilled help. Many models, treadle or automatic.

For Sandblasts—write DEPT. B

LEIMAN BROS., Inc. 166 Christie Street Newark 5, N. J.

AIR PUMPS - AIR MOTORS - SAND BLASTS - DUST COLLECTORS

If you write maker identify as IEN - 10839

HOIST . . Pneumatic chain design, four sizes rate 300 to 2,000 pounds

Source: KELLER TOOL CO.
1948 Parks St., Grand Haven, Mich.

Details in Bulletin 4

New brake design, an added bearing on the drive shaft, a control lever to take rough service, hardened ring gears and pendent controls characterize new design of the company's pneumatic chain hoist, previously described IEN-2493-46. The redesigned unit is standard with maximum lift at 8 ft. and with load rating at 300 to 2,000 lb. based on air pressure at 80 pounds.

The smallest assembly lifts at 75 fpm. with the 80 lb. pressure. The other three operate at 17 fpm. Weights of the first three are 30 lb. each. The largest is 75 pounds. Each takes a ⅜-in. air hose connection. Safety stops keep the load within limits of safe position. A load moves downward under complete control even when the air line has been disconnected.

Overall length is 14½ in. on the three smallest units, 20¼ in. on the largest. Greatest diameter is about 4½ and 7 inches. Minimum distance between hooks is 12½ in. on three of the hoists and 19 in. on the largest one.

If you write maker identify as IEN - 10840

CHEMICAL . . Fluorine compound, refrigerant and aerosol propellent

Source: GENERAL CHEMICAL DIVISION
40 Rector St., 8th Floor, New York 6, N. Y.

For sale to manufacturers

Genetron 11 and 12 are new organic fluorine compounds which the company has added to its previously developed line. The new materials are available for use as refrigerants and as the propelling medium in aerosol containers. The complete line contains approximately 70 organic and inorganic fluorine compounds for industrial and research applications.

If you write maker identify as IEN - 10841

SCAFFOLD . . Folding steel bracket to support a 36 in. working platform

Source: WILSON-ALBRECHT CO.
3565 Wooddale Ave., Dept. KP, Minneapolis 16, Minn.

Nails support it

New bracket is made of angle iron for assembly in the form shown in the illustration to provide working support for a platform 36 in. in width. The parts can be disassembled and folded into a package measuring 2 by 2 by 48 inches. Weight is 12½ pounds. The assembly includes a brace that holds the platform supporting angle against movement to either one side or the other.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

If you write maker identify as IEN - 10842

Weather Beater!

Don't let frostbite freeze your working schedule! Keep outdoor workers warm, safe, efficient by adding winter comfort to McDonald Safe-T-Hat protection! Flannel-lined Zero Hoods fit snugly under Safe-T-Hat's rugged aluminum shell...tie under the chin to assure skin-tight fit!

ZERO HALF-HOOD *(shown at right) Covers head and ears. Available in medium and large sizes.*

ZERO FULL-HOOD *Full neck protection from icy winds, rain, sleet. Medium or heavy weight in medium and large sizes.*

Write for Illustrated Bulletin

1932-1952
20 YEARS OF PROGRESS

McDonald SAFE-T-HAT with WINTER ACCESSORIES

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5721 WEST 96TH ST., LOS ANGELES 45, CALIF.
Other Offices in San Francisco & Houston

If you write maker identify as IEN - 10843

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

L. A. PHILLIPS, President
PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER 14, N. Y.

If you write maker identify as IEN - 10844

"We Stopped Blowing of Main Fuses for Russell Creamery Company by Replacing Them With FUSETRON dual-element FUSES"

. . . "They seem very pleased with our work and we give a good deal of the credit to FUSETRON FUSES!"

ROY SPRINGER, Proprietor
ROSS ELECTRIC CO., Superior, Wisc.

Here are the details:

"In the fall of 1947 the Russell Creamery Company, largest creamery in Superior, asked us to see what we could do to stop blowing of main fuses. They were having trouble; whenever a main fuse blew the whole creamery was affected.

"We carefully checked the load and found that it was unbalanced but that 600 ampere fuses were the size that should be used.

"The load was balanced and to be sure poor contact was eliminated, the clips in the switch were replaced. Then FUSETRON dual-element Fuses in 600 ampere size were installed.

"Since then Russell Creamery Co. has not had to call us once to replace a main fuse.

"Later Russell Creamery built an addition to their plant. We got the job. It was still not necessary to change the 600 ampere service.

"They seem very pleased with our work and we give a good deal of the credit to Fusetron Fuses."

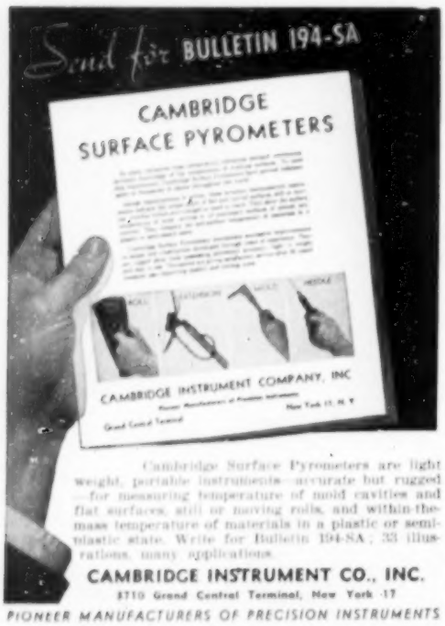
DON'T RISK LOSSES — One needless shutdown, one lost motor, one destroyed switch or panel, one burned out solenoid . . . May cost you far more than replacing every ordinary fuse with a FUSETRON dual-element fuse.

WRITE for complete information about the All-Purpose Protection of FUSETRON Dual-Element FUSES.

FUSETRON
TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION
BUSS

BUSSMANN MFG. CO.
Division of McGraw Electric Company
University at Jefferson St. Louis 7, Mo.

If you write maker identify as IEN - 10846



Cambridge Surface Pyrometers are light weight, portable instruments—accurate but rugged—for measuring temperature of mold cavities and flat surfaces, still or moving rolls, and within-the-mass temperature of materials in a plastic or semi-plastic state. Write for Bulletin 194-SA; 33 illustrations, many applications.

CAMBRIDGE INSTRUMENT CO., INC.
3710 Grand Central Terminal, New York 17

PIONEER MANUFACTURERS OF PRECISION INSTRUMENTS

If you write maker identify as IEN - 10847

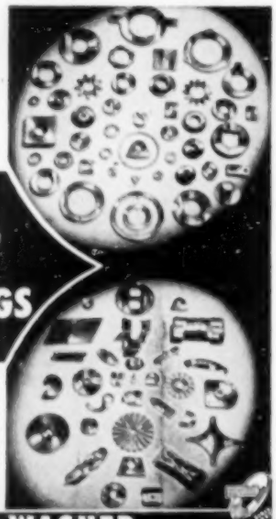
THIS MAY BE THE ANSWER TO YOUR FINISHING PROBLEM!

We are this because the Vonnegut Brush-Backed Polishing Head is designed especially for polishing curved and formed surfaces . . . and because it is an excellent deburring tool. It is used directly on die casting metals, aluminum, brass, bronze and steel—but it is equally efficient for removing bubbles and other blemishes and feathering out such areas on enamelled or painted surfaces. Its basic versatility is enhanced by a wide choice in grade and grit of abrasive loadings. It's a unique device available in two models, for portable tools or fixed spindle operation. Write for the Vonnegut Polishing Head bulletins.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
1827 MADISON AVE., INDIANAPOLIS 25, U.S.A.

If you write maker identify as IEN - 10848

Serving **INDUSTRY**
SINCE 1887



WASHERS and STAMPINGS

Standard and Special Washers, of every description, any material, any finish, utilizing more than 22,000 Sets of Dies.
Let us Quote on Your Needs.

WROUGHT WASHER MFG. CO.
THE WORLD'S LARGEST PRODUCER OF WASHERS
2207 SOUTH BAY STREET • MILWAUKEE 7, WISCONSIN

If you write maker identify as IEN - 10849

CONTROL . . Materials level unit for use on a bin, hopper, conveyor

Source: TATE & ROE INC.
5540-44 Dyer St., Dept. N, Dallas 5, Texas

Actuates circuit

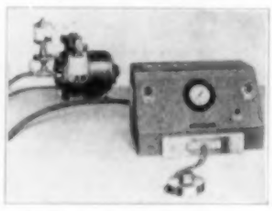
Neoprene diaphragm is mounted in the flat face of this new Binatrol materials level control unit. It is designed to assemble in the wall of a bin or other equipment handling free flowing materials. Material pressure on the diaphragm actuates a switch in the control housing to open or close a signal or control circuit.

Installation can be made singly or in multiple at critical points where the material being stored or handled can operate the diaphragm. Switch rating is 15 amp. on 110-volt ac. The unit can be supplied with contacts either normally open or normally closed. Diaphragm movement is through $\frac{1}{16}$ inch. Outside diameter of the aluminum housing is 8 inches. The required mounting hole measures 7 inches. Electrical connections are made through ½-in. standard conduit for which an opening is provided.

If you write maker identify as IEN - 10850

TESTING . . Vacuum equipment signals "go" or "no-go" on a leak test

Source: GITS BROS. MFG. CO.
1866 S. Kilbourn Ave., Chicago 23, Ill.



For your production line

Test plate designed to seal a surface area, as in testing for porosity, to cover a flat surface in checking operations such as lapping, grinding, or to enclose a shaft seal, diaphragm, cylinder, bellows, comprises the work contacting element in this new Vacuum Tester. The plate connects through a flexible tube to the tester housing and through it to the motor-driven vacuum pump that completes the assembly.

Air tightness or leakage through the work piece under the plate actuates the instrument to close a "go" or "no-go" circuit to two signal lights on the housing. Vacuum is read on a gage. Both it and cycle time can be adjusted.

Identify as IEN - 10851

Molten caustic bath provides a means to dissolve embedded foundry sand from castings for automotive transmissions. At the same time it provides heat to stress relieve and anneal the work pieces. The bath operates at about 1,000 deg. F. in a tank measuring 41 by 4 by 4 feet. It is combined with a sulphuric acid dip located between two hot-water rinse tanks, following the salt bath, to remove metallic scale. A conveyor carries the work in continuous movement. The equipment is Sunbeam Corporation design and construction.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10852

You Cannot Beat Turbine-Type APCOS for Small Capacity, High Head Duties

Capacities to 150 G.P.M.
Heads to 600 Ft.

APCO Single Stage Turbine-Type Pump

PUMPS by Aurora

For Every Purpose

Write for BULLETIN 111

APCO Turbine-Type PUMPS —ideal for "100:1" duties where small capacities and high heads predominate. Get acquainted.

AURORA CENTRIFUGAL PUMPS are available in many types and sizes—well noted for their streamline coordination between impellers and shells.

We Invite Your Special Pump Problems

Write for CONDENSED CATALOG "M"

DISTRIBUTORS IN PRINCIPAL CITIES

Aurora Always Pumps — **AURORA PUMP COMPANY**
52 Loucks Street Aurora, Illinois

If you write maker identify as IEN - 10853

SPROCKETS are easy to order . . . RIGHT OUT OF THE CATALOG

When the job calls for stock roller chain sprockets—Sewall is as near as your telephone or mailbox. Precision-made Sewall sprockets add life to your chain drives—and they're available in a wide range of sizes. Do you have our stock sprocket catalog?

Let us quote on made-to-order sprockets, too.

By the Makers of Sewall Gears

WEbster 1381

E. B. SEWALL MANUFACTURING CO.
686 Glendale St. • St. Paul 4, Minnesota

If you write maker identify as IEN - 10854

ELECTROFILM **Lube-Lok** BONDED TO METAL LUBRICATION

GIVES A BETTER FINISH TO SEGMENTS OF THE NEW **Smith-Corona** OFFICE TYPEWRITER

Smith-Corona says:
"We find Electrofilm Lube-Lok a highly satisfactory finish . . ." Lube-Lok is a solid-film lubricant particularly adapted to sliding surfaces. Machine use makes the lubricant more secure. Although Lube-Lok forms a solid coat over each part, it does not add to the part's dimensions.

SUPER-SUPPORT SEGMENT of the new Smith-Corona Office Typewriter with ELECTROFILM FINISH.

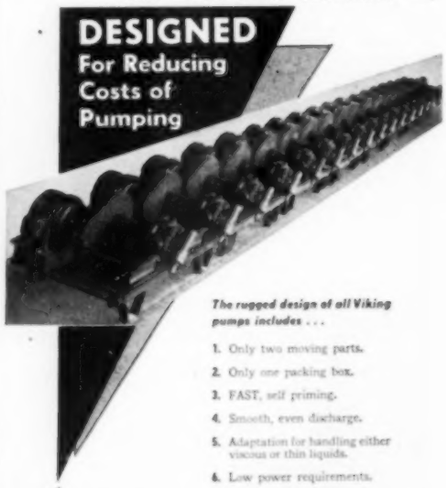
Specified or Licensed by: Aircraft and Automotive Industries, Armed Services, Atomic Energy Comm., hundreds of other manufacturers.

Write, Wire or Phone for Custom Processing Plant nearest you.

Electrofilm HEAT LUBRICATION CORP.
7116 Laurel Canyon Blvd. • North Hollywood, California

If you write maker identify as IEN - 10855

DESIGNED For Reducing Costs of Pumping



The rugged design of all Viking pumps includes . . .

1. Only two moving parts.
2. Only one packing box.
3. FAST, self priming.
4. Smooth, even discharge.
5. Adaptation for handling either viscous or thin liquids.
6. Low power requirements.

Lower your pumping costs. Start with bulletin S25F. Gladly sent on request.

by **VIKING**

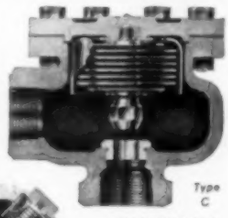
Viking PUMP COMPANY
Cedar Falls, Iowa

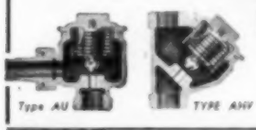
If you write maker identify as IEN - 10856

CUT PROCESSING CYCLE 20%

with Nicholson Steam Traps

A large processor reports that substitution of Nicholson thermostatic traps for a mechanical type shortened an important heating cycle from 5 to 4 hours. They credit the higher and more even temperatures Nicholson traps effect. See why leading plants are increasingly standardizing on Nicholsons for faster heat transfer. 5 types for every application; process, power, heat; sizes ¼" to 2"; press. to 250 lbs.





BULLETIN 152

159 Oregon St.
Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.

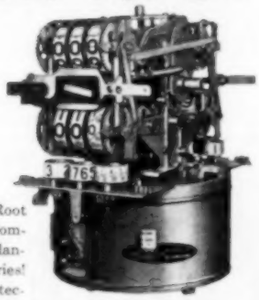
TRAPS · VALVES · FLOATS

If you write maker identify as IEN - 10857

It Computes the Cost of Gasoline Pumped... in All of the World's Currencies

Added Evidence that

Everyone Can Count on VEEDER-ROOT



Yes, this Veeder-Root Gasoline Pump Computer speaks the languages of 144 countries! It's the modern protection given you by gasoline pump manufacturers, gasoline refiners and their service-station outlets *. . . to make sure you get full measure in your tank, and the right change in your pocket* (or you can buy in "even money"). And what's more, it underscores the fact that "Veeder Root Counts Everything on Earth" . . . electrically, mechanically or manually. What's *your* counting problem?

VEEDER-ROOT INCORPORATED

"The Name That Counts"

HARTFORD 2, CONNECTICUT

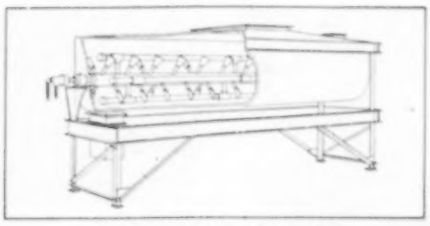
Chicago 6, Ill. • New York 19, N. Y. • Greenville, S. C.
Montreal 2, Canada • Dundee, Scotland
Office and Agents in Principal Cities

"Counts Everything on Earth"

If you write maker identify as IEN - 10859

PROCESSING . . Monotube dryer heats, cools and recovers solvents

Source: LINK-BELT CO.
305-9 N. Michigan Ave., Chicago 1, Ill.



Illustrated details in Book 2413

Chemicals, food products, oil mill products, pharmaceuticals are fed through a top inlet near one end of this new trough type equipment. The material is moved toward the discharge in the bottom of the trough near the opposite end by a power driven paddle conveyor. Steam, hot liquid or coolant is circulated through the hollow conveyor shaft and through parallel outrigger tubes. Movement of the paddles and the tubes churns and advances the material for efficient heat transfer.

Air is supplied at the two ends and is drawn out through an opening in the top center, all above the material, to carry off vapors for disposal or for recovery of volatile solvents. Fluids such as water or refrigerant can be circulated when the product is to be cooled rather than heated. Dusting is practically eliminated since there is no air current through the body of material. Temperature and pressure inside the housing can be controlled closely.

Two trough diameters are 24 and 30 inches. Length ranges from 5 to 10 ft. in the first case and from 5 to 20 ft. in the second. Construction materials are subject to specification.

If you write maker identify as IEN - 10860

METER . . AC. volt-ammeter opens for application around conductor

Source: COLUMBIA ELECTRIC MFG. CO.
4517-21 Hamilton Ave., Cleveland 14, Ohio

Meter Type AC-1

Four ranges for current, maximum at 12, 60, 120 and 600 amp., and two ranges maximum at 150 and 600 volts are provided on this new ac. voltammeter. The meter measures 11 by 3½ by 2 inches. It weighs about 2 pounds. It supplements the company's line of Tong Test ammeters.

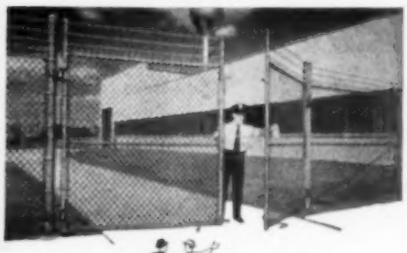
The insulated jaws are opened by pressing a trigger on the housing side for application over a power cable or bus bar. The trigger is then released allowing the jaws to close around the conductor. They will encircle one measuring 1½ in. in diameter or 2 by ½ in. in rectangular section. A current reading is made with the meter in this position. Voltage readings are made with the aid of two leads that plug into the meter handle. Current or voltage range is selected by moving a lever over a scale on the housing face.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10861

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •



Defense against hazards which could hinder or stop production is a major function of Page Chain Link Fence, guardian of persons and property for more than 60 years. Consult the skilled Page Fence erecting firm near you, whose name we will send with fence data on request. Cost estimates, no obligation. For information:

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

If you write maker identify as IEN - 10862

REDUCE HANDLING

of Tools, Parts and Materials

Because Stackbins are portable containers — not fixtures — tools, parts and materials can be carried to departments, from machine to machine, or held in stockrooms without being transferred from one container to another. Stored in Stackracks, any Stackbin is instantly accessible when its contents are needed — without disturbing any other bin. *Stackbins*—individual hopper-fronted stacking bins, slide like drawers in *Stackracks* — individual units which lock together to form racks of any size, shape or capacity.

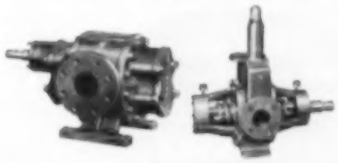
STACKBINS IN STACKRACKS

Manufactured and sold in Canada exclusively by Wickwaro-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1077 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

If you write maker identify as IEN - 10863



Two kinds of fluids demand two kinds of rotary pumps

For Viscous Liquids, it's the Worthington Herringbone-Gear (GA and GR) design that eliminates end thrust, operates smoothly and quietly, and reduces bearing wear. For very thin non-lubricating liquids, it's Worthington's sliding vane (VE) types, with automatic compensation for wear, high suction lift, and replaceable wearing parts.

Capacities: Herringbone-Gear—1 to 5,000 gpm (pressures to 500 psi). Sliding Vane—25 to 1,000 gpm (pressures to 200 psi).

Worthington Corporation, Pump and Compressor Merchandising Division, Harrison, N. J.

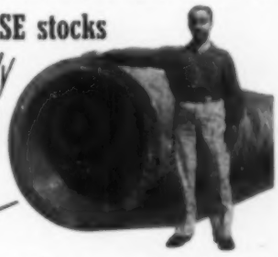
PC-2-37

WORTHINGTON
Standard Compressors

If you write maker identify as IEN - 10864

Now! FRASSE stocks

Centrifugally Cast Steel Tubing



ACIPCO steel tubing, centrifugally cast, is now distributed by Frasse in sizes ranging from 2" to 50" O.D., wall thicknesses of ¼" to 4", in lengths up to 16 feet. The more popular sizes—in AISI 1025—are speedily available from Frasse warehouse stocks. Other sizes and analyses (as little as 16 feet) can be made to order promptly.

Government and ASTM, AMS, ABS, ACI, AISI Specifications can be readily met. ACIPCO tubing is made in any standard or non-standard analysis. All steel used in its manufacture is produced in electric furnaces.

Why not check the advantages offered by this product? Complete facts are contained in our Engineering Memo #11. Send for your free copy today.

Call FRASSE 1st for Seamless, Welded and *Centrifugally Cast Steel Tubing 2" to 50" O.D.*

Peter A. FRASSE and Co., Inc.

17 Grand Street, New York 13, N. Y.
Lyndhurst • Philadelphia • Buffalo • Syracuse

If you write maker identify as IEN - 10865

ORDER
JOHNSON UNIVERSAL BRONZE
by Bearing Size

SAVE machine time and money. Johnson Bronze Bars are completely machined—I. D., O. D. and ends . . . with 1/64" cut to bring to bearing size. No waste, no defects. Over 350 sizes, inside diameters 1/2" to 7 1/4", and outside diameters 1" to 50" in cored bars. Solid bars 1/4" to 8" diameters. All 13" lengths. Available from Johnson distributors and warehouses.

JOHNSON BRONZE CO.
476 S. Mill St., New Castle, Pa.

Write for New Catalog

JOHNSON B BEARINGS
Sleeve-Type

If you write maker identify as IEN - 10866

GAST rotary air compressors ATOMIZE FUEL OIL UNIFORMLY for "Powermaster" Steam Generators

NEW GAST CATALOG

PROBLEM: Select a compressor to supply uniform, pulseless air volume for atomizing fuel oil in the combustion chamber of Orr & Sembower "Powermaster" Boilers.

SOLUTION: Three sizes of Gast Rotary Air Compressors proved excellent for boilers of 50, 100 and 150 H.P. Gast Rotary Vane Design delivers positive, pulseless pressure from 18 to 22 psi and displacements to 22 cfm — without a bulky pressure tank.

RESULT: Positive air volume pulverizes every droplet of fuel oil. Long, trouble free performance results from ball bearing compressors with automatic lubricator, intake filter, cooling fins and fans.

ONCE AGAIN you can see how Gast Rotaries — plus concentrated experience with air power, low vacuum and pressure — helped solve a specific problem. Have you considered the advantages of Gast Rotaries on your product? Write us, outlining your problem — you'll receive prompt cooperation. "Air may be your Answer!"

Original Equipment Manufacturers for Over 30 Years

GAST ROTARY — AIR MOTORS · COMPRESSORS · VACUUM PUMPS
GAST MANUFACTURING CORP., 11 Kelley St., Benton Harbor, Mich.

If you write maker identify as IEN - 10867

GET BOTH-

top performance . . . economy with "RC" Flexible Couplings

Only the Link-Belt "RC" Flexible Coupling gives you single chain simplicity plus divided rollers. Divided rollers equalize the load . . . maintain proper balance at high speeds . . . adjust to reasonable misalignment and end float. There's a Link-Belt Roller Chain Coupling for ratings from fractional to 1000 hp. For complete information, write for "RC" Coupling Folder 2363.

LINK-BELT
"RC" FLEXIBLE COUPLINGS
LINK-BELT COMPANY
Dept. 21, 307 N. Michigan Ave., Chicago 1, Ill.
LC.797

If you write maker identify as IEN - 10868

PRINTING . . Stencil type machine is motor operated for tags and labels

Source: WEBER ADDRESSING MACHINE CO.
202 W. Central Road, Mount Prospect, Ill.

She likes it

Motor drive has been added to the company's Model-KC Tag-O-Graph machine, previously described IEN-3245-52. The new Model KC-E prints, addresses, marks, counts and cuts to size shipping and identification labels in one continuous operation. It works from a roll of plain or adhesive backed paper and will deliver 100 printed labels per minute. Label size ranges from 7/8 to 3 1/4 in. in height by 2 to 6 in. in width.

The printing and addressing operation is by means of a stencil that can be prepared on a typewriter or by hand, employing a stylus. The company is prepared to supply ink that meets Government specifications. The machine measures 9 by 20 by 11 in. and weighs 28 pounds.

If you write maker identify as IEN - 10869

CHUCK . . Four jaw independent for application on 9 to 16 in. lathes

Source: BUCK TOOL CO.
2013-17 Schippers Lane, Kalamazoo 62, Mich.

Wrench is supplied

Three sizes with body diameter at 6, 8 and 10 in. are available in the company's new independent chuck. It is made with a recessed back face to take long taper key adapters for Model L-00 spindle noses or cam lock adapters as specified. Steel screws operating the jaws measure 7/8 in. in diameter and are equipped with 9-pitch Acme threads. The body is semi-steel. Jaws, thrust bearings and screws are hardened. The recess in the back of the body that takes the lathe adapter is 5/8 in. in depth to remove this much overhang.

Identify as IEN - 10870

Instruments can "breath" safely, as internal pressures change, following application of a new Daco desiccating device. It is a miniature dehumidifier containing silica gel and two bellows operated breathing valves. It applies on the instrument housing. The exhaling valve opens when pressure inside the housing exceeds that outside. This action closes an electric heating element circuit to drive moisture out of the silica gel with the air leaving the instrument. It thus reactivates the gel. The inhaling valve opens, the exhaling valve closes, the heating circuit opens and air moves into the instrument housing when external pressure exceeds that inside. The entering air passes through the silica gel where any entrained moisture is removed. Thus the interior of the instrument is kept dry and free from fogging or corroding.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10871

SPEEDY AIR VISE

SPEEDS UP
- ✓ MILLING
- ✓ PUNCHING
- ✓ DRILLING
- ✓ BENDING
- ✓ TAPPING
- ✓ RIVETING

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

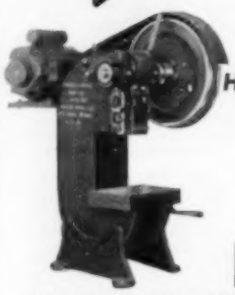
Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.
Complete with Foot Control, Air Hose and Fittings . . . . . only **$29.90**

Prompt Delivery from Your Supplier or Write Direct
W. R. BROWN CORPORATION • 2645 N. Normandy Ave., Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

If you write maker identify as IEN - 10872

PRESS-RITE



5-TON *High Production* POWER PRESS

Press-Rite Model O High Production Power Press —5-ton Open Back Inclinable Bench Model (Floor Model also available)

Visit Our Booth 21497
NATIONAL METAL SHOW
Oct. 20-Oct. 24, Philadelphia

MAKE MANHOURS MORE PRODUCTIVE

Manhours produce more with an efficient Press-Rite Model O High Production Power Press. Seven inch shut height plus easily adjustable ball screw and clamping arrangement speeds setting of dies. Automatic brake and single stroke mechanism increase safety . . . strengthen operator confidence. Straight roller bearings in the flywheel make adjustments unnecessary. Specially developed Press-Rite sliding key clutch with 4-point engagement drive ring eliminates lost flywheel motion. These and other outstanding features give you greater output per press . . . per manhour.

New Bulletin P-552 gives you full details on the entire Press-Rite line. Write for your copy . . . TODAY!

Sales Service Machine Tool Co. SSMT
PRESS-RITE PRESSES • SHAPE-RITE SHAPERS • KELLER POWER HACK SAWS
2365 UNIVERSITY AVENUE • ST. PAUL 4, MINNESOTA

If you write maker identify as IEN - 10873

Automatically **LIDS MIXED SIZE BOXES**

fmc RANDOM SIZE BOX LIDDER

up to 600 per hour . . .

One operator can lid up to 600 boxes of mixed sizes per hour on the *fmc* Random Size Box Lidder. As the boxes are conveyed into the machine, it automatically adjusts the nailing clincks to the proper size, drives the required number of nails, and discharges the lidded box on to an outgoing conveyor, taking the place of several nailing machines which would otherwise be required to handle the same volume and variety of production.

SEND FOR ILLUSTRATED BULLETIN

FOOD MACHINERY & CHEMICAL CORPORATION
Packing Equipment Division, Dept. D
Riverside, California NM-20 C

If you write maker identify as IEN - 10874

FREE! *TO MACHINERY BUYERS*

INTERSTATE BLUE BOOK of MACHINERY

An invaluable aid to every user of metal-working machinery. Issued regularly as a guide to one of the world's largest stocks of new, rebuilt and used machinery. Write today for FREE SUBSCRIPTION — no obligation.

INTERSTATE
MACHINERY CO., INC.
1451 W. Pershing Road, Chicago 9, Ill.

If you write maker identify as **IEN - 10875**

Catches and Fasteners for every need!

Bassick, world's largest maker of casters, also makes all kinds of catches and fasteners . . . either "standard" or adapted for your special needs by Bassick engineers working with you.

Write for Specialty Hardware Catalog of our extensive line, or send your problem. THE BASSICK COMPANY, Bridgeport 2, Conn. *In Canada:* Belleville, Ont.

Combination Latch-Hinge (ZLA-1020, ZLA-1000)

Note this versatile application! Clamps on one side are hinged . . . clamps on other side are opened. But box can be opened from either side and lid removed by unlocking all four fasteners.

"Power-Pack" (ZLA-1104)

Back view shows springs, compressing 100 lbs. of tension . . . the reason why this clamp won't loosen. Easy to open even in sub-zero temperatures.

Back View

Heavy-Duty Hood Fastener (C-4017)

"Catching" vehicle hoods is but one of the many uses for this fastener, which provides a dependable, economical "hold", yet allows easy access to encased units. Many sizes and styles.

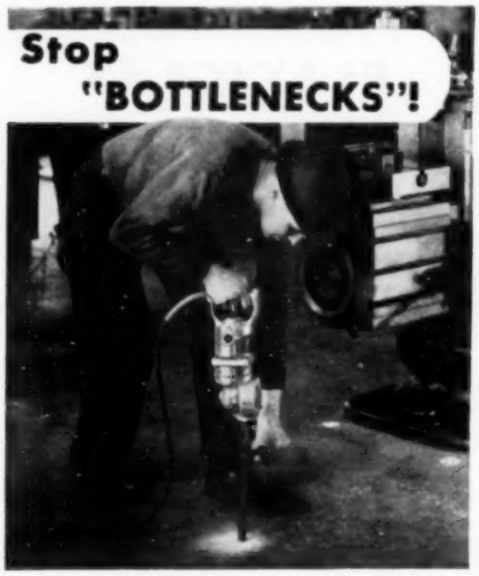
Flush Type Clamp Assembly (ZLA-1000)

Fully recessed to allow close stacking of articles on which they're installed. Spring-loaded arm works easily and grips the latch firmly. Hole for inserting padlock or shipping seal.

Bassick A DIVISION OF STEWART SW WARNER

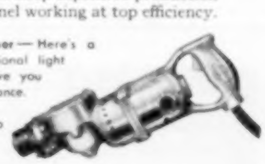
MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

If you write maker identify as **IEN - 10876**



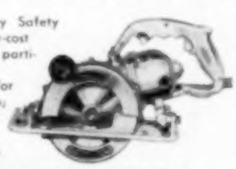
Your maintenance men need these modern Stanley Electric Tools to speed-up installation and repair work . . . to keep expensive production machines and personnel working at top efficiency.

No. 310-A Electric Hammer — Here's a powerful hammer of exceptional light weight, ruggedly built to give you years of time-saving performance. Use it on concrete, stone, brick, or for chiseling wood. Plug into any light socket; has smooth, "no-jolt" action.



No. 160 Series Electric Drills — Packed with surplus power, these streamlined Stanley Drills have removable chuck guards to protect operator's hand . . . make fast, accurate drilling safe and easy. Available with regular or pistol type grip for all standard voltages, A.C. or D.C. Sizes: ¼", ⅜", and ½".

W7 Electric Saw — This Stanley Safety Saw is indispensable for fast, low-cost maintenance and construction of partitions, offices, shelves, or flooring. Features include: Duplex handle for convenient gripping in any position; depth of cut adjustment to 2½"; tilting base graduated for bevel cuts to 45°; automatic safety guard.



Don't wait for a costly "bottleneck" in your plant before investigating these Stanley maintenance money-savers. See your dealer or write for Electric Tool Catalog. Stanley Electric Tools, 414 Myrtle Street, New Britain, Conn.

STANLEY

Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

If you write maker identify as **IEN - 10878**

CLEANING . . Steam spray machine, electric heat, delivers hot solvent

Source: HOMESTEAD VALVE MFG. CO.
P. O. Box 85-A, Coraopolis, Pa.

No pressure tank, no flame, no sparks

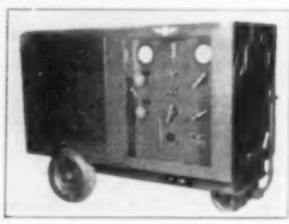
Heavy deposits of encrusted grease and dirt can be cut from equipment, floors, walls by application of this new All-Electric Homestead-Yeager portable machine. It had been added to the company's lines of shop connected and oil-fired equipment and is available in two models. One is Standard SPA series Pennsylvania Approved for use in fresh air underground. The other is Permissible BMA Series. It is approved by U. S. Bureau of Mines. Equipment includes a 50-ft. length of three-conductor open end trailing cable, a 50-ft. section of steam hose and a cleaning gun with round and a flat interchangeable nozzle. Dimensions are 66 by 36 by 32 inches. Weight is about 800 pounds. Power input is 50 kw.

The machine mixes a constant supply of water with a variable amount of cleaning compound solution and pumps it through an electrically heated manifold. The hot solution is forced through the hose to the cleaning gun where it flashes into a powerful vapor cleaning spray. The steady blast cuts, dissolves and flushes away heavy dirt and grease. The machine handles 60 gph. of water. It delivers at 100 to 120 pounds. It can be specified for operation on 220 or 440 volt three-phase ac. or dc.

If you write maker identify as **IEN - 10879**

TESTING . . Hydraulic equipment for aircraft circuits and components

Source: GREER HYDRAULICS INC.
464 18th St., Brooklyn 15, N. Y.



For specified use

Illustrated is one of several new assemblies of portable and stationary hydraulic equipment for aircraft circuit and component testing in which synthetic hydraulic fluids are employed. The assembly shown is portable and can be supplied with engine or motor drive to handle Hollingshead H-2 water based fluid. The equipment will drain, filter, refill, check for internal or external leakage and also check performance of the components.

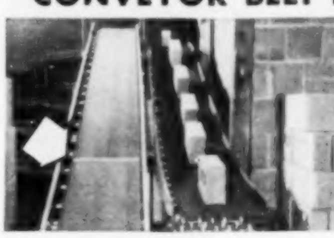
Additional equipment in the line includes stationary stands suited particularly for use with Skydrol hydraulic fluid. This equipment is particularly suited to check performance of aircraft components both in service and in production.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 10880**

ALLIGATOR®

CONVEYOR BELT LACING



*Every Tooth A Vise**

in Long Continuous Lengths for Conveyor Belts . . . . .

- ★ Excellent for Package Conveyors, Portable Loaders, Trenching and Ditching Machines, etc.
- ★ In canneries where corrosion or rust is a problem specify Alligator made of Stainless or Monel.
- ★ For magnetic separators or anti-sparking specify Alligator made of Everdur.
- ★ Separable and smooth on both sides.
- ★ 12 sizes. For belts from 1/16" to 5/8" thick—and *any width.*

Order from Your Supply House. Ask for Bulletin A-60

FLEXIBLE STEEL LACING CO. 4610 Lexington St., Chicago 44, Ill.

JUST A HAMMER TO APPLY IT

If you write maker identify as **IEN - 10881**

IT PAYS TO *INVEST IN PROTECTION*

Send for Descriptive Literature

HANNIFIN "Air Warden"

Hannifin "Air Warden" safeguards against loss of production time—protects your valuable air-operated equipment three ways.

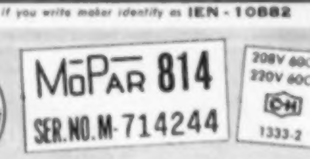
1. **AIR FILTER**—removes grit, dirt, scale, moisture, emulsified oil.
2. **PRESSURE REGULATOR**—keeps pressure where you want it. No danger of pressure build-up with "Air Warden."
3. **LUBRICATOR**—atomizing type lubricator, can be filled without shutting off air pressure.

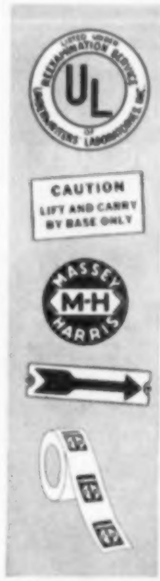
Sold separately or in combination (as shown).

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Ill.

If you write maker identify as **IEN - 10882**





Special Self-Sticking BRADY QUIK-LABELS

In Colors, Sizes, Shapes and Wording YOU Need!

- PRODUCTION
- INSPECTION
- INSTRUCTION
- TRADEMARKS
- PARTS & SERIAL NUMBERS

THOUSANDS OF USES throughout Industry. Brady self-sticking QUIK-LABELS can be made to your special requirements. Come on handy dispenser cards or rolls. Quickly applied—durable—silicone coated to resist dirt, grease, moisture. Low in cost, inexpensive to apply. Save time and money. Send for complete details and FREE samples of these special labels, today.

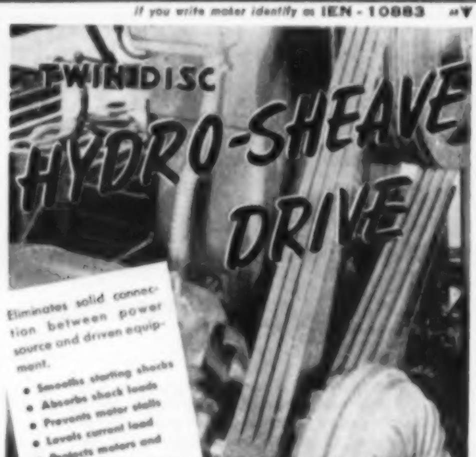
DISTRIBUTED IN 125 PRINCIPAL CITIES.

MANUFACTURERS OF SELF-STICKING PRODUCTS

W. H. **BRADY** COMPANY

765 W. GLENDALE, MILWAUKEE, WISCONSIN

If you write maker identify as **IEN - 10883**



TWIN DISC CLUTCH COMPANY, Racine, Wisconsin

If you write maker identify as IEN - 10884

FOR QUICK STARTS

In steam heated processes, output is increased if air is vented from the steam space.

The rapid removal of both large volumes of air and condensate are features of the

SARCO THERMOSTATIC STEAM TRAP

The powerful thermostatic bellows permits the use of an OVER-SIZE orifice and this orifice is WIDE OPEN when the trap is cold.

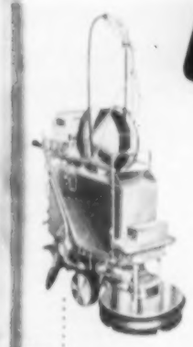
No seats to change . . . regardless of steam pressure changes. Only one operating part . . . the dependable, one-piece thermostatic bellows made of phosphor bronze, monel or stainless steel.

For removing air and condensate from dryers, kettles, pans, cookers, etc., use Sarco No. 9.
Write for Catalog 252. 505

SARCO BRANCHES IN PRINCIPAL CITIES FACTORY AT CLAREMONT, ONT.
SARCO CANADA LTD., 611 Gerrard St., E., TORONTO 8, ONT.

If you write maker identify as IEN - 10885

Self-Propelled SCRUBBER-VAC . . . . . CUTS CLEANING TIME 2/3!



For Small-Area Factories (2,000 to 15,000 sq. ft. of floor)

The new 11BP Finnell Scrubber-Vac cleans floors in approximately one-third the time required with a conventional 15 or 18" scrubber polisher. And the new 11BP also handles the dry work—polishing, steel-wooling, etc. Has 18" bush ring. Vacuum performs quietly. The machine can be leased or purchased.

Applies cleanser, scrubs, and picks up—in ONE operation!

FIND OUT WHAT YOU WOULD SAVE . . . with a Finnell Scrubber-Vac. Finnell makes several models and sizes. For demonstration, consultation, or literature, phone or write nearest Finnell Branch or Finnell System, Inc., 2610 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.

If you write maker identify as IEN - 10886

REASONS WHY

engineers rate Modine the standard of excellence

You have to look beyond Btu capacity to get the most from your unit heating dollars. Modine balanced design gives you the correct combination of outlet air temperatures, volume and velocities. Your assurance of perfect heating comfort plus lower fuel costs. See the Modine representative listed in your classified phone book, or write Modine Mfg. Co., 1403 DeKoven Ave., Racine, Wis.

Ask for Bulletin 100A, "Modine Unit Heaters." Also available — Bulletin 451 on new Modine Gas-Fired Unit Heaters with stainless steel heat exchangers and burners.

Modine UNIT HEATERS

FOR FACTORIES • STORES • GREENHOUSES • GARAGES
MANY OTHER APPLICATIONS U-1181

If you write maker identify as IEN - 10887

ELECTRONIC PART . . Inverter converts low power dc. to ac. output

Source: BRISTOL CO.
Griggs & Kelsey Sts., Waterbury 20, Conn.

An instrument component

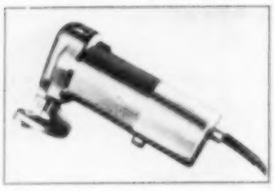
Syncroverter is a new synchronous inverter that accepts low power dc. signals, minimum at 0.05 microvolt, and converts them to ac. voltage that can be amplified and applied to electronic, electrical and servo control or operation. The unit operates at any frequency to 3,500 cycles. Contacts are single pole double throw with contact carrying armatures of sufficiently low mass so mechanical response is essentially instantaneous.

Operation is not affected by mechanical vibration or shock. The mechanism is hermetically sealed. The switch is available also with two separate single pole double throw contacts in an arrangement that can be employed on both the input and output of a dc. amplifier.

If you write maker identify as IEN - 10888

SHEARING . . Portable electric tool rates to 5 fpm. in 16 gage sheet metal

Source: VICTOR J. KRIEG INC.
51 W. 52nd St., 1st Floor, New York 19, N. Y.



Made in Switzerland

Reciprocating motor-driven head operates a shear blade through a short stroke to make 3,000 cuts per min. and to provide forward movement to 5 fpm. in this new Lesto Model GEG-1 portable electric tool. It is a companion unit to the portable saw previously described IEN-932-52 for the company.

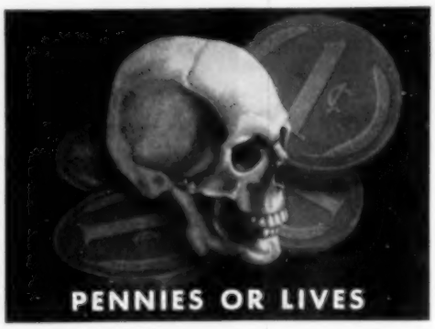
Drive is by a universal motor that can be specified for operation on 110 or 220-volt current. Weight is 3¼ pounds. A guide assists in cutting straight lines or following irregular outlines. Standard equipment includes an extra set of blades, screws and a gage.

Identify as IEN - 10889

An altitude sensor and a timing mechanism have been combined by United States Gauge Division. The new device releases the ripcord on a parachute at correct altitude to bring a jumper safely down to the ground. The sensor trips the timer at a predetermined height. The chute opens at the termination of the set delay interval. A jumper can clear his plane, fall free through the rarified upper atmosphere and get down as quickly as possible to prevent freezing or using up his oxygen supply. Then the chute is opened by the instrument.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10890



PENNIES OR LIVES

One inferior fitting . . . a sudden failure . . . and a workman is maimed or killed. This can happen in your business if you try to skimp on quality in wire rope fittings. And it will cost you plenty in higher insurance rates, compensation, lost time and damages.

That's why blue-chip companies all over the U.S. insist on Laughlin wire rope and chain fittings. Drop forged for strength, designed to give an extra margin of working safety on every job, Laughlin fittings are a sound investment on original equipment and your best protection on every replacement.

Look for the trademark—for safety's sake.

Comprehensive Catalog No. 130 is free.
THE THOMAS LAUGHLIN CO.
101 FORE ST., PORTLAND, MAINE

LAUGHLIN
THE MOST COMPLETE LINE OF WIRE ROPE AND CHAIN FITTINGS

If you write maker identify as IEN - 10891

GRC ZINC ALLOY FASTENINGS

• DEPENDABLE • RUSTPROOF • DURABLE

GRC CAP NUTS

Die cast, not turned! Free of tool marks and cut-off burrs; class 2 threads tapped square with face of nut.

GRC SMALL TUBULAR RIVETS

Die cast, not headed! Closer tolerances, more uniform heads for greater riveting efficiency. Dia. up to 9/64"; lengths to 5/16".

GRC WING NUTS

Exclusive finger-grip design; easy to assemble, disassemble; brightly finished; clean threads.

Gries die cast zinc alloy fasteners are strong, durable, rust-proof . . . economical, too! All Gries fasteners may be used without protective finishes in most applications. Furnished in all commercial finishes when desired. Prompt delivery on standard sizes—specials to order . . . Write today for samples and prices.

GRIES REPRODUCER CORP.
797 E. 132nd St., New York 54 • MOtt Haven 5-7400

If you write maker identify as IEN - 10892

AVAILABLE

PLEXIGLAS
LUCITE
ACETATE

SHEETS • RODS • TUBES

Cut to Size. Large or Small Quantities Shipped from stock

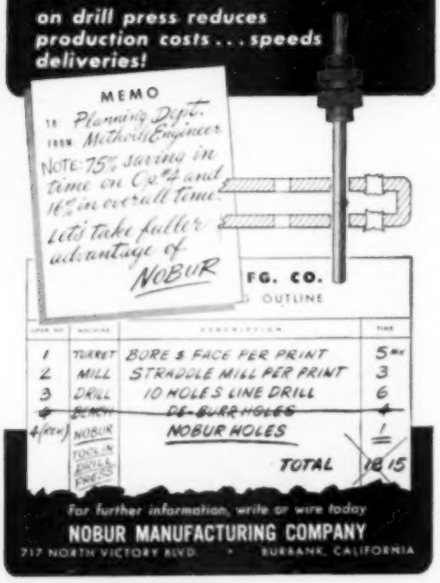
Our prompt service has made us a leader in this field

FREE CATALOGUE ON REQUEST

PLASTIC SUPPLY CO.
2901 N. GRAND BOULEVARD
ST. LOUIS 7, MO.

If you write maker identify as IEN - 10893

Deburring with NOBUR tool on drill press reduces production costs . . . speeds deliveries!



For further information, write or wire today
NOBUR MANUFACTURING COMPANY
717 NORTH VICTORY BLVD. • BURBANK, CALIFORNIA

If you write maker identify as IEN - 10894

Free!

FROM WESTERN PRECIPITATION

28 pages of helpful facts about

COTTRELL ELECTRICAL PRECIPITATORS

THIS HELPFUL 28 PAGE BOOKLET — Prepared by Western Precipitation Corporation, *pioneers in the commercial application of* COTTRELL *Precipitators*—summarizes and illustrates many of the basic facts you should know about COTTRELL Precipitators for use in recovering industrial dusts, mists, fogs, fumes, fly ash and other suspensions from gases. Written particularly to answer questions of design engineers, plant engineers and others interested in COTTRELL Precipitators, this booklet outlines the various types available, how they operate, principal types of electrical systems and rectifiers, shell construction, other helpful data.

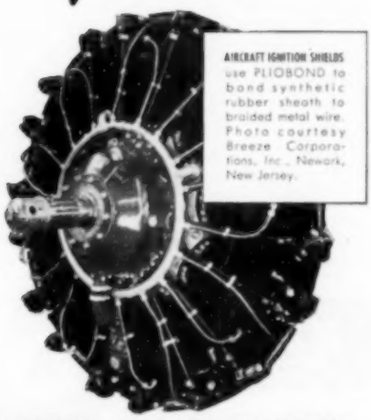
As long as the supply lasts, a free copy will be sent on request to our nearest office. Write for Bulletin No. C103 today!

WESTERN Precipitation CORPORATION

Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 LeBaron St. BLDG., 1 St. Sauveur St., CHICAGO 2 • HOBART BUILDING, SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

If you write maker identify as IEN - 10895

ANOTHER ADHESIVE PROBLEM SOLVED WITH *Pliobond*



AIRCRAFT IGNITION SHIELDS use PLIOBOND to bond synthetic rubber sheath to braided metal wire. Photo courtesy Breeze Corporations, Inc., Newark, New Jersey.

RUBBER-TO-METAL BOND HOLDS ENGINE PARTS

in Spite of Vibration and Temperature Variations

IN assembling radio ignition shielding for aircraft engines, PLIOBOND—Goodyear's tan, thermoplastic, rubber-like adhesive—was used by this manufacturer. Despite temperature variations and vibration—in spite of moisture, abrasion, corrosion, oil, gasoline and cleaning solutions—the PLIOBOND union assures perfect bonds and complete protection.

PLIOBOND "bonds anything to anything"—and gives good aging qualities, high strength, ease of application and high chemical and moisture resistance to make it first choice in hundreds of assembly applications. Discuss your bonding problems with a PLIOBOND Distributor, or write:

Goodyear, Chemical Division
Akron 16, Ohio

CHEMICAL GOODYEAR DIVISION

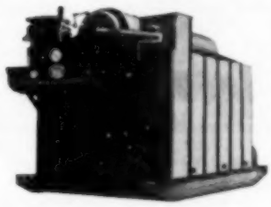
Use Proved Products
CHEMIGUM • PLIOBOND • PLIOLITE • PLIOVIC • WING-CHEMICALS
The Finest Chemicals for Industry

Chemigum, Pliobond, Pliolite, Pliovic—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

If you write maker identify as IEN - 10897

BOILER . . Self-contained assembly, water tube design, oil and gas fired

Source: TITUSVILLE IRON WORKS
51 Industrial Ave., Titusville, Pa.



Details in Bulletin B-3275

Type WTP designates a new water tube boiler that is shop assembled and shipped ready for installation on a simple foundation. Field work is confined to completing connections for oil, gas, water, electric and steam services. The boiler is available in capacities from 7,500 to 27,500 lb. of steam per hour. Firing can be specified for heavy oil; a combination of heavy oil and gas, light oil or a combination of light oil and gas, natural gas, manufactured, or coke oven gas. Operating efficiency of 80 per cent or better is obtained when firing with oil.

The boiler is manufactured in accordance with ASME code requirements and is Hartford inspected. It is enclosed and protected by a welded pressure tight steel casing. It includes forced draft and pressurized furnace operation so induced draft is not required and a low stack can be used.

Each assembly is equipped with an automatic or semi-automatic set of combustion controls including push button start and flame failure safeguards. Overall length ranges from about 12 to 26 ft. with skid length at about 9 to 23 feet. Width is within 11 feet. Height is 12 to 26 feet.

If you write maker identify as IEN - 10898

DRYING . . Electric equipment to set the glue in wood assemblies

Source: WASHBURN ELECTRIC CO.
94-98 Dwight Place, Dept. IEN, Englewood, N. J.

List is $220

Type BU-30 is a new 3-kva. assembly of transformer and stainless steel heating element particularly designed to cure adhesives in application of Formica and wood veneers to the edges of furniture panels. The stainless steel strip is inserted in the clamping jig and current is passed through it from the transformer by connection through leads to terminals on the strip. Curing periods for edge banding with Formica are 1 to 2 minutes.

The transformer assembly includes rotary tap switches with which output voltage can be set for given lengths or area of the heating elements and to permit quick power change when two jigs are being used alternately from the same heat source.

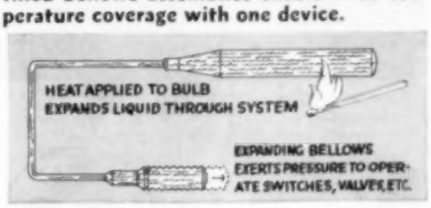
Standard equipment includes one stainless steel heater strip measuring 3 in. in width by 192 in. in length, the transformer assembly, two 5-ft. flexible cables and a control switch to turn off the power supply at the end of each heating cycle. Additional heater strips list at $4 or $6 each. A set of four heater strips lists at $20 or $28 per set. Technical information and typical designs are included in Bulletin No. 101.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10899

A PAID NEWS ADVERTISEMENT BY CLIFFORD MFG. CO.

TEMPERATURE CONTROL . . . Liquid filled bellows assemblies enable wide temperature coverage with one device.



Clifford liquid filled bellows assemblies operating on the principle illustrated above permit accurate, remote control over a wide temperature range with one device. Bellows movement is closely proportional to the temperature range throughout the system's entire operating range. Differential required to operate a device is directly related to the temperature range to be controlled.

Versatility of these bellows assemblies permits use with low or high temperatures, and includes such applications as domestic stoves (gas or electric), steam processing apparatus, kilns, ovens and other industrial equipment. The company offers engineering aid in designing systems to meet your particular temperature control requirements.

Clifford flexible, leakproof, metallic bellows assemblies are also used to: (1) seal rotary shafts or packless valves against liquid or gas leakage; (2) transmit motion hydraulically to remote points; (3) provide for thermal expansion; (4) provide shock mountings or vibration dampening; (5) permit motion in a vacuum. To designers interested, the company offers reprints of the *Product Engineering* article: "What to Consider When Selecting A Metallic Bellows."

CLIFFORD MANUFACTURING COMPANY
146 Grove St., Waltham 54, Mass.
Division of Standard-Thomson Corporation.

If you write maker identify as IEN - 10900

NEW! IDEAS - METHODS EQUIPMENT for CUTTING YOUR HANDLING COSTS

44 PAGES OF VALUABLE INFORMATION FOR YOU

COMPARISON OF SYSTEMS—Fork truck, lift truck, tractor and trailer handling systems.

ATTACHMENT — ACCESSORIES—Mercury equipment to meet specific handling requirements.

COMPLETE PRODUCT SPECIFICATIONS—for entire Mercury line. Information for planning your plant system.

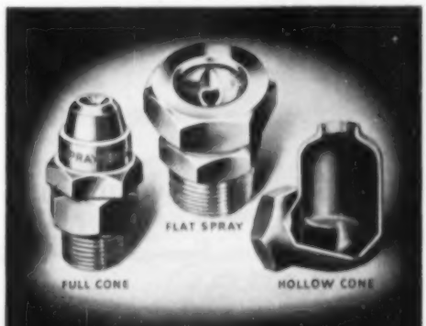
CLIP COUPON FOR FREE COPY

THE MERCURY MANUFACTURING CO., 4132 S. Halsted • Chicago, Illinois

Please send me a FREE copy of new Mercury catalog (Bulletin 300)

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____ CITY _____ STATE _____

If you write maker identify as IEN - 10901



SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

If you write maker identify as IEN - 10902

KIPP *Air Grinders*

• FASTER SPEEDS
• BETTER RESULTS
• LOW PRICES

MODEL JA
50,000 R.P.M.
Weight 12 ounces; length 6¾ inches; check size ⅛ inch. Wheel guard removed for better illustration.

$42 IN U.S.A.

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

If you write maker identify as IEN - 10903

GOULDS Fig. 3450 — Single-stage centrifugal pump. Capacities up to 15,000 G.P.M. Heads up to 500 ft.

This Goulds Pump Gives You These 5 Important Features

1. **Hydraulically balanced impellers** assure freedom from vibration.
2. **Horizontally split casing,** matched and dowelled, makes access to working parts easy. All water passages exceptionally smooth due to careful core making.
3. **Heavy bronze shaft sleeve** ground to smooth finish reduces friction. Saves power. Reduces wear on packing.
4. **Deep stuffing box** and bronze water seal ring minimizes leakage and wear.
5. **Gland horizontally split and bolted** to make repacking easy.

For full details, call your Goulds representative, or write for Bulletin 721.2.

Goulds PUMPS INC. Seneca Falls New York

If you write maker identify as IEN - 10904

Nugent pressure filter installed on turret lathe for filtering cutting compound.

GET THESE BIG ADVANTAGES WITH NUGENT CUTTING OIL and COOLANT FILTERS

1. Oils and coolants are filtered 99.8% clean — can be used over and over again — oil savings almost 100%.
2. Tool life is lengthened.
3. Rejects reduced through greater accuracy and better finishes.

Scientifically designed, Nugent cutting oil and coolant filters provide 20 times more filtering area than other filters of comparable size. Capacities range from 1/4 to 320 GPM. Write for full details. For larger capacities, ask about Nugent gravity filters.

Wm. W. Nugent & Co., Inc. 418 N. Hermitage Ave. CHICAGO 22, ILLINOIS — Est. 1897

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . Representatives in Principal Cities

If you write maker identify as IEN - 10905

1 Man in 1/2 Hour

Can Empty and Clean a Box Car with an S-A BOX CAR UNLOADER

Full or semi-automatic operation eliminates hand labor and expense of operators to date and accidents. Unloads practically all loose, pulverized or granular bulk materials of [illegible] faster and safer than hand-guided power shovel.

One man handles all operations from outside car door . . . with free time to take care of grain doors, move car puller cable and do other duties. The S-A Unloader digs, scrapes and cleans. It's a practical time and money saver!

Write for Bulletin 549 containing photos, diagrams and other important details.

STEPHENS-ADAMSON MFG. CO. (S-A)
Standard Products Division
231 Ridgeway Ave., Aurora, Illinois

Please send me Bulletin 549 on S-A Box Car Unloaders.

Name _____
Company _____
Address _____
City _____ Zone ____ State _____

USEFUL NEWS NOTES INFORMATION

If you write maker identify as IEN - 10906

ABRASIVES . . Application suggestions on diamond powder for polishing molds, dies, tools, parts

Elgin National Watch Co.
105-9 National St., Elgin, Ill.

Grades, application procedure, equipment employed is described for the company's "Dymo" diamond abrasive in new 8-page "Finish with Diamond" bulletin. Pictures and text cover use of the material on polishing plastic molds, carbide drawing dies, cutting tool edges, gage surfaces, parts. A summary chart list general recommendations.

If you write maker identify as IEN - 10907

ADHESIVES . . What resin adhesives are and how they are applied in packaging is told by article

Paisley Products Inc.
1772 Canalport Ave., Chicago 16, Ill.

Reprint of a technical article is offered on request to acquaint you with resin-base packaging adhesives. The 6-page reprint, "Resin Adhesives", describes how these materials are made, how they are employed in emulsion form, advantages, methods of application, suggestions for handling.

If you write maker identify as IEN - 10908

ALUMINUM . . How to machine it is described in 72-page manual on tools and shop practice

Aluminum Co. of America
801-A Gulf Bldg., Pittsburgh 19, Pa.

Tools for machining aluminum are described first as to materials, shapes and finishes, then as to practice in new manual, "Machining Alcoa Aluminum". Temper designations, alloy characteristics are presented on the metal along with tables of mechanical properties. Shop practice operations include turning, parting, boring, planing, milling, drilling, sawing, broaching, filing.

If you write maker identify as IEN - 10909

BIMETAL . . Suggestions on its use presented as application examples in new 32-page booklet

W. M. Chace Co.
1602 Beard Ave., Detroit 9, Mich.

Eighteen recent product advertisements have been combined in new "Successful Applications" booklet with engineering data on properties, sizes, tolerances, sample calculations. Cutaway views show location of the bimetal element. Text stresses function of the bimetal. A set of schematic drawings show types of thermostatic devices based on bimetal.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10910

PUMP HIGHLY CORROSIVE FLUIDS SAFELY

NEW POLYETHYLENE PUMPS

WITH NATURAL RUBBER, GUM, NEOPRENE, BUNA, HYCAR

"flex-i-liners"

"NO STUFFING BOXES!"

ESPECIALLY DESIGNED TO HANDLE HCl, HF, NaOH, H_2SO_4, DISTILLED H_2O, $FeCl_3$, $Ca(OH)_2$ and many others

Fluid only contacts outer surface of "FLEX-I-LINER" and inner surface of body block. 35 combinations of rubber and plastic "flex-i-liners" and pump body blocks. Models available from fractional to 20 G.P.M., Vinyl and Compar "flex-i-liner" also available in pumps to 5 G.P.M. capacities. Widely used in chemical, food, pharmaceutical and other process industries—wherever non-contaminating pumping is required. Excellent for slurries. Write for literature.

FLUID NEVER TOUCHES METAL

NO STUFFING BOXES
NO GASKETS
NO VALVES
SELF LUBRICATING

VANTON PUMP CORP.
EMPIRE STATE BLDG., Dept. IE10, New York, N. Y.

VANTON NON CORROSIVE CONTAMINATING *flex-i-liner* PUMPS

If you write maker identify as IEN - 10911

MACHINE LOADING, SCHEDULING DISPATCHING AND JOB ASSIGNMENT

Bulletin outlining procedure widely used for these cost-cutting results now available:

Visual Scheduling . . . a glance at Board shows work ahead for each machine or man.

Order Sequence . . . quickly indicated by arrangement of tickets representing orders.

Schedule Changes . . . easily specified by rearranging tickets in revised sequence.

No Delay Between Planning and Dispatching . . . no lists or records to write.

Operation According to plan Assured.

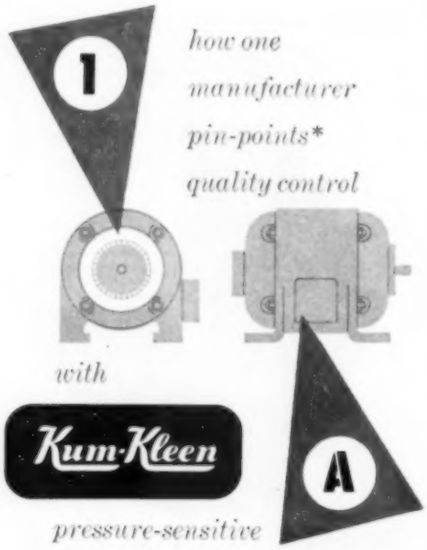
Readily Adapted . . . to production, assembly, maintenance, engineering and work of every variety, using work orders, time tickets, move tickets, tabulating cards, etc., and McCaskey Machine Control Boards.

Write today for your copy of illustrated Bulletin A-630 IEN containing all the facts

The McCaskey Register Company, Alliance, Ohio

McCASKEY INDUSTRIAL CONTROLS
PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

If you write maker identify as IEN - 10912



laid on *labels*

A PROMINENT MAKER of electric motors pin-points quality control by identifying every production and inspection operation with Avery Kum-Kleen self-adhesive labels. It's a simple, easy way to quickly trace and correct any variations from their high standards of quality. Prior to the use of Kum-Kleen labels, which are just LAID ON with a finger-touch, no other method had proved satisfactory.

* Each stator winding operator's work is identified by a small, round Avery Kum-Kleen label bearing a numeral. It STAYS STUCK on the laminated surface...is not damaged by varnish dip and bake. Similar Kum-Kleen labels, which are die-cut letters to preserve identification even though spray-painted, are used by each final tester-inspector.

Write for sample labels and complete details on this effective way to improve quality. You may be able to apply it to your business!

AVERY *Producers of Pressure-Sensitive products since 1935*

Avery Adhesive Label Corporation

117 Liberty St., New York 6 — 608 S. Dearborn St., Chicago 5
1616 So. California Ave., Monrovia — Offices in Other Principal Cities

If you write maker identify as IEN - 10914

men
machines
equipment

. . . In time of war plan for PEACETIME PRODUCTION

We are ready to discuss tooling for your post-war production. Write for our facilities list.

SEMCO
SERVICE MACHINE COMPANY
INCORPORATED
200 MILLER STREET ELIZABETH, N. J.

If you write maker identify as IEN - 10915

Handling heavy coiled wire with Towmotor at Jones & Laughlin Corporation, Pittsburgh, Pa.

give production a big hand ... Towmotor makes one man ten times better when it comes to handling heavy loads at top-production speed. Output soars and handling costs sink accordingly ... gains that fast cancel Towmotor's modest first cost. From then on it's a steady pay-off because there's real staying power built into Towmotor Mass Handling Equipment. "Man Hour Thieves" tells the whole timely story. Write for your copy and name of your nearest Towmotor Representative to: Towmotor Corporation, Div. 26, 1226 E. 152nd St., Cleveland 10, Ohio.

TOWMOTOR
THE ONE MAN GANG
FORK LIFT TRUCKS and TRACTORS
Since 1919

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

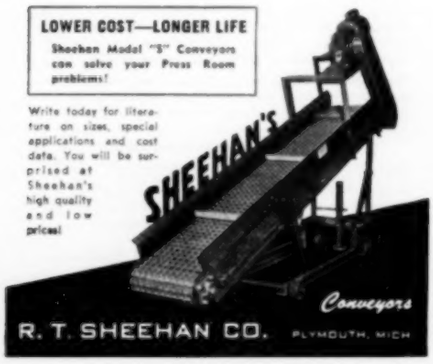
If you write maker identify as IEN - 10916

Sheehan's
Model "S"
PRESS CONVEYOR
OUTSTANDING IN PERFORMANCE!

Companion to nationally known two-plane Model B Press Conveyor, here is another Sheehan conveyor built to save valuable working space. Can be used with Flat-Wire Metal Belts, Woven-wire high Carbon Belts, Fabric or Rubber Belts. Top of loading end of belt is within 8 inches of floor. Positive drive sprockets in loading center of belt assures no belt slippage—oily conditions included. Sprockets can be added or removed from drive shaft by operator depending on load needs (when using flat wire metal mesh belts).

LOWER COST—LONGER LIFE
Sheehan Model "S" Conveyors can solve your Press Room problems!

Write today for literature on sizes, special applications and cost data. You will be surprised at Sheehan's high quality and low prices!



R. T. SHEEHAN CO. PLYMOUTH, MICH

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN - 10917

CASTINGS . . Pocket booklet of definitions of terms employed in production and use of iron castings

International Nickel Co.
67 Wall St., Room 703, New York 5, N. Y.

"Glossary of Terms" titles new 36-page pocket booklet of some 150 definitions from Abrasion to White Iron that have to do with iron castings. It is addressed to the producer and user of such castings, includes a note on nickel cast irons.

If you write maker identify as IEN - 10918

COMMUNICATING . . Booklet on microwave equipment tells how it is used for industrial communication work

Radio Corp. of America
1941 Front & Cooper Sts., Camden 2, N. J.

"Introduction to Microwave" titles new 20-page booklet on the company's 960 and 2,000-megacycle point-to-point radio communication equipment. It will be sent upon letterhead request. It describes how a microwave system works, multiplexing to transmit several signals at once, reliability, suggestions on planning, examples with layout diagrams.

If you write maker identify as IEN - 10919

CONNECTORS . . Unusual picture booklet traces development of company's solderless terminals

Aircraft-Marine Products Inc.
2102 Paxton St., Harrisburg, Pa.

"The Harrisburg Story" is new 20-page booklet that uses pictures to show the development of solderless terminals, application tools and the crimp patterns themselves. It concludes with a note on the company, its personnel and what its future program includes. A copy will be sent on request.

If you write maker identify as IEN - 10920

CONNECTORS . . For aluminum conductors are described in detail by new file folder of information

Thomas & Betts Co.
60-A Butler St., Elizabeth 1, N. J.

Company has assembled a set of data sheets and technical reprints on how to make electrical connections to aluminum conductors. It offers them in a file folder with the title, "Making Good with Aluminum". Topics include characteristics of aluminum, reasons for using aluminum connectors, installation suggestions, company's compression fittings.

If you write maker identify as IEN - 10921

CONTROLS . . For oil burners the subject of new pocket booklet that gives service hints

Mercoid Corp.
4203 Belmont Ave., Chicago 41, Ill.

Wiring diagrams, installation instructions, suggestions on service are included in new 48-page "Oil Burner Controls Handbook", available on request. The diagrams are schematic, show arrangements for warm air, hot-water, steam heating systems. Installation instructions are presented by type of control from thermostat to flame failure unit. Service hints are presented in similar manner, step by step.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

If you write maker identify as IEN - 10922

NO MORE GUESSWORK!
PROCESS TIMING
automatically recorded by a Little "TIME CLOCK"

Bolt this 2 lb. Recorder right to the machine itself. Let the "Process" record itself on the chart —(No ink, no pencil, no wires; the record is recorded in wax).

"The cure must be 8½ minutes"—"the heat must be applied exactly 15 minutes"—"the plating must take just 2 minutes"—"the pigment must be mixed just 12 minutes"—etc.

The Servis Recorder checks on this—it records just what happened—it "times the process." You are no longer in the dark; from now on you know all day and every day whether your process timing is lived up to—or if somebody slipped—if something went wrong to ruin your product for that afternoon, or that whole shift! Write for Process Timing Catalog. The Service Recorder Co., 1375 Euclid Avenue, Cleveland 15, Ohio.

The Servis Recorder
The "Time Clock" for Machinery

If you write maker identify as IEN - 10923

Save Costly Anodes!
USE
UDYLITE
FORCITE ANODE BASKET

The Udylite Forcite Anode Basket conserves anode materials by using either scrap or ball anodes to the last ounce! This basket is made from reinforced steel, and coated with an inert material. It can be used in nickel, acid copper, lead and all cyanide baths.

It's tapered for continuous electrical contact without replacing "contact" anodes. Shielded, inert graphite blocks run the entire length of the basket. They're coupled to the anode bars to provide the electrical contact.

These baskets are available in either 24" standard length at $50.00 or 30" lengths at $55.00. F.O.B. Detroit. Order your supply today from *The Udylite Corporation, Detroit 11, Michigan.*

Pioneer of A Better Way in Plating

THE Udylite CORPORATION

If you write maker identify as IEN - 10924

You "Designed" This One
the NEW Super Safe
IDEAL
Voltage Tester

With ALL the Features Thousands of Electrical Men Told Us They Wanted — No Other Tester Has ALL of These:

Double strength, seamless plastic case

Handier center mount for prod makes testing easier

Prod storage completely shields sharp tips

Coil layer-wound on rugged nylon spool for long safe life

Molded rubber, moisture-tight prod handles—"No-Slip" safety rings; 30" neoprene leads

Plastic name plate bonded to case—no surface metal

Coil secured at both ends—Coil leads isolated, preventing shorts

"Fog-Free" window keeps out dirt

Plus Famous IDEAL "DOUBLE PROTECTION" . . . a solenoid, calibrated indicator AND a neon test lamp, each independent of the other—NO CHANCE OF FAILURE TO DETECT VOLTAGE

Tests 110 to 550 volts AC—110 to 800 volts DC

SOLD THROUGH LEADING DISTRIBUTORS. SEE IT NOW!

MAIL TODAY FOR FULL DETAILS

IDEAL INDUSTRIES, Inc.
1108 Park Avenue, Sycamore, Illinois
Please send me full catalog information on new IDEAL Voltage Tester
Name
Company
Address
City Zone State

If you write maker identify as IEN - 10926

THIS "BLOW HARD" MAKES A QUICK CLEAN-UP

Put a CLEMENTS CADILLAC blower-suction cleaner into action and presto! — Dirt, Dust, and Grit vanish from every crevice of machinery and equipment. Then you can do some bragging — about this fast, easy, economical way to clean.

Eligible under C. M. P. regulations.

SAVE TIME - MONEY PREVENT DAMAGE TO MACHINERY WITH THE

Made in 5 models with attachments for every cleaning job.

CLEMENTS CADILLAC PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE., CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

If you write maker identify as IEN - 10927

A clean break for heavy loads thru magnetic repulsion

See how Trumbull's HCI (High Capacity Interrupter) uses this basic principle for quenching arcs quickly, giving greater safety and boosting switch life expectancy.

Write for Trumbull's free bulletin TEC-10 and learn the full facts about this truly revolutionary Type A safety switch.

TRUMBULL (T) ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONNECTICUT

If you write maker identify as IEN - 10928

SUPERSENSITIVE BALANCER!

New CROWN BALANCING WAYS

NO CENTERING NEEDED!

• Eliminates trial and error method of detecting "heavy spots" in rotating parts. Free turning discs, mounted on ball bearings insure least friction and highest possible sensitivity. Load Capacities of 400 to 5000 lbs. swing 10" to 60". Easily portable.

Gives Quick Static Balance of ARMATURES FLY WHEELS CRANKSHAFTS FANS, etc.

WRITE FOR DETAILS

CROWN INDUSTRIAL PRODUCTS
402 Borden Avenue
Sycamore, Ill.
Please send catalog data and prices on CROWN Balancing Ways

Name
Company
Address
City Zone State

USEFUL INFORMATION

(Continued)

If you write maker identify as IEN - 10929

FURNITURE . . How to plan a laboratory is described by new kit of scale layout materials

Fisher Scientific Co.
719 Forbes St., Pittsburgh 19, Pa.

Scale-size cutouts of 21 standard laboratory furniture units are feature of new "Laboratory Planning Kit", available upon request. These cutouts are partially perforated to detach and move about on a sheet of graph paper scaled one-half inch to the foot until the desired layout is attained. An instruction booklet tells how to use the kit, includes dimension drawings.

If you write maker identify as IEN - 10930

GRINDING . . What you can expect in snagging as to power, pressure and rate of cut described in article

Norton Co.
36 New Bond St., Worcester 6, Mass.

"Grits and Grinds", company's house publication, has as its major article in the Vol. 43 No. 7 issue an answer to typical questions on snagging castings and billets. The article describes basic relationships between power, pressure, wheel speed and coefficient of grinding pull. It tells how to determine rate of cut from power and pressure.

If you write maker identify as IEN - 10931

HEATING . . Useful information on induction heating methods and applications

Induction Heating Corp.
179-83 Wythe Ave., Brooklyn 11, N. Y.

Typewritten manual originally compiled for the company's own field engineers now is offered on letterhead request to department heads of metal-working plants. It carries the title of "Ther-Monic Induction Heating Facts". Its 25 sheets presents basic information on induction heating, types of equipment, advantages of induction heating, application methods for soldering, brazing, heat treating, fixtures.

If you write maker identify as IEN - 10932

LUBRICATING . . Application suggestions on colloidal graphite for surface coating and impregnation

Acheson Colloids Corp.
2000 Washington Ave., Port Huron, Mich.

Dry-film uses of colloidal graphite are described by a number of application examples in new 6-page Bulletin 435. They range from automobile door locks to thermostats for lubrication applied by the manufacturer, from asbestos packing to grinding wheels for impregnation.

If you write maker identify as IEN - 10933

MANAGEMENT . . List of safety standards contains a 7-page index classifying them by subject

American Standard Association
70 E. 45th St., Room 2845, New York 17, N. Y.

About half of new 24-page "American Safety Standards" consists of condensed reviews of these standards arranged by number with a list price for each. The other half tells what standards are and how they are used, together with an alphabetical list from Abrasive Wheels to Xylene.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10934

MOISTURE'S NO PROBLEM

MUCKLE VENTS

chase out foul, wet air!

• Good looking
• Fit any roof
• Easy to install
• Move one of five of air flow — for better pressure and in manner kind air

Muckle

WRITE TODAY FOR COMPLETE INFORMATION

MANUFACTURING CO. OWATONNA 33, MINN.

If you write maker identify as IEN - 10935

A complete variable speed power plant in single unit

Combines motor, REEVES speed varying mechanism, and speed reducer in one, space-saving unit.

REEVES VARI-SPEED MOTODRIVE

To new machines or old, REEVES Vari-Speed Motodrive brings all the benefits of stepless speed adjustability. Available with any standard, constant-speed, foot-type motor—no special motors to stock. Horizontal and vertical models, 1 to 25 hp; 2:1 through 6:1 speed ratios; fractional hp sizes in speed ratios through 10:1; manual or automatic controls. Assures *positive, accurate* speed changes without stops—easily applied to machines in service—proved in 300,000 installations. Send for free catalog No. IN 72a-G.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

If you write maker identify as IEN - 10936

Production Soldering BETTER JOBS FASTER more Economically

Save Labor, Solder . . . Increase Production

This new MOGUL unit is built to deposit silver, lead, and tin base solders in a liquid or semi-liquid form . . . faster, cleaner . . . to any constant moving part. This new automatic soldering gun replaces the soldering bath, hand soldering, and in many cases, expensive fixtures. Quickly adapted to various size parts. Adjustable to speed of work . . . gives pin-point location for cleaner seams.

BETTER WORK APPEARANCE

Deposits solder or brazing wire to the exact spot for cleaner seams. This new MOGUL soldering gun is now in wide use, saving time and money, increasing production, and turning out a better-looking product.

Write today for new MOGUL SOLDERING GUN bulletin

METALLIZING COMPANY OF AMERICA
Dept. IEN • 3520 West Carroll Avenue
Chicago 24, Illinois
Telephone: SAcramento 2-3710

If you write maker identify as IEN - 10938

THESE PRACTICAL GOGGLES ARE LIGHTWEIGHT

These practical goggles are light in weight for comfort and strongly made for long life and the utmost protection against flying particles striking from any direction.

"301A" has individual eyecups, molded to fit eye contours. Won't conduct heat or electricity, affords wide vision. Air channels in eyecups and many perforations invite a natural draft behind lenses and reduce fogging. Ball-chain bridge adjusts easily and is insulated with curved tubing for comfortable fit.

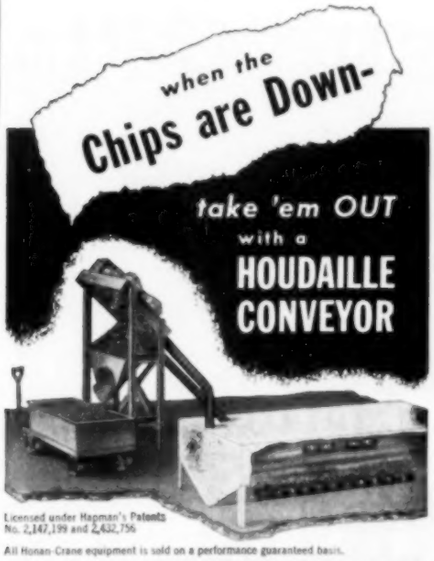
"321A" features opaque eyecups specially made to fit over practically all types of personal glasses. Ventilation and anti-fog properties similar to the "301A." Bridge is of high grade leather and easily adjusted.

American Optical COMPANY
SAFETY PRODUCTS DIVISION

YOUR NEAREST AO Safety Products Representative can supply you

Southbridge, Massachusetts • Branches in Principal Cities

If you write maker identify as IEN - 10939



Licensed under Hapman's Patents No. 2,147,199 and 2,432,756

All Honan-Crane equipment is sold on a performance guaranteed basis.

In this large motor car plant, Houdaille Enclosed-Flight Conveyor continuously removes chips from pit beneath twin banks of Bausch 12-Station Transfer Drilling Machine. Chips are deposited into portable hopper for disposal. Houdaille Conveyor is ideal for removing small material from confined area. This installation paid for itself out of savings in one year.

Automatic System Solves Difficult Chip and Sludge Removal Problems . . . Cuts Costs, Speeds Production

Houdaille Conveyor's automatic loading and continuous materials transport handles any solid or fibrous waste (chips, abrasive sludge, scale, etc.) which settles to the bottom of a tank or hopper. Many plants of all sizes, in many types of operation, have saved substantially on labor, maintenance, down-time and other production costs by installing one or more Houdaille Conveyor systems.

Check these important Houdaille advantages:

- Eliminates costly manual cleaning and handling methods
- Operates continuously or intermittently as needed without shutting down productive machinery
- Readily adaptable to almost any need, any space or traverse requirement . . . ideal for restricted areas
- Dependable, trouble-free automatic operation; requires little or no maintenance attention; quickly pays for itself out of savings.

Write for complete information and case histories. Honan-Crane Engineering Service is available.

WORLD LEADING OIL FILTER MANUFACTURER

HONAN-CRANE CORPORATION
802 Wabash Avenue, Lebanon, Indiana
subsidiary of HOUDAILLE-HERSHEY CORP.

IN CANADA:
E. W. Playford, Ltd., Montreal 28
W. S. Micklethwaite, Toronto 18
Cummins Galbraith, Ltd., Edmonton, Alta.

If you write maker identify as IEN - 10941

PROTECTING . . Valve shield encloses spray from a leaking stem

Source: INDUSTRIAL PRODUCTS CO.
2801 N. Fourth St., Philadelphia 33, Pa.

Originated at DuPont

Operators are protected from injury caused by spray leaks from valve stems in lines handling corrosive fluids by application of this new cone shaped Chex-Spray. The unit is made of Neoprene measuring $\frac{1}{8}$ or $\frac{1}{4}$ in. in thicknesss. Four heights are 6 to 15 inches. The cone measures $4\frac{1}{4}$ to 14 in. at the bottom of its skirt and $2\frac{1}{2}$ to $4\frac{1}{2}$ in. at the top.

The four sizes are suited for valves measuring $\frac{3}{4}$ to 6 inches. They will enclose the spray issuing from a defective stem packing so it cannot contact a passing operator or one who is opening or closing the valve. List price is $1.30 to $6 each in lots of 100 or more in a given size.

If you write maker identify as IEN - 10942

CORROSION PROOFING . . Liquid dries to protective film on metals

Source: MARKAL CO.
3048-52 W. Carroll Ave., Dept. PC, Chicago 12, Ill.

Specified samples upon request

Type DA Coatings are two new corrosion proofing liquids for application by brush, dip or spray on metal surfaces. Type S-R protects metals against scaling and corrosion in temperatures to 1,850 deg. F. Type DA resists attack by steam, hot water, salt spray, hot acids and mild alkalis at temperatures to 600 deg. F.

Type DA is particularly suited to protect surfaces of processing equipment where chemicals and acids are stored and handled. It applies also on steel structures exposed to chemical and acid fumes from nearby operations.

If you write maker identify as IEN - 10943

TRUCK . . Hand dump unit mounts 1-yd. side rocking hopper

Source: THOMAS TRUCK & CASTER CO.
59-63 Mississippi River, Keokuk, Iowa

For a clean shop

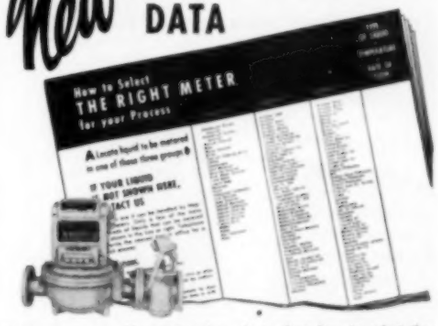
Lever latch on the end frame of this new Model-SDU wagon truck is operated to release the 1-yd. hopper so it can roll to dump its load to either side. Chains limit the rolling action. The hopper is designed so it is self-recovering when its load has been emptied.

The truck is equipped with a steering tongue for attachment behind a tractor. It is particularly suited to handle cuttings, rubbish and for general utility in a plant. The hopper is 11-gage steel measuring 44 by 62 by 28 inches. Width at the bottom is 10 inches. Load capacity is to 2 ton.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10944

New LIQUID METERING DATA



Neptune Liquid Meters control quality and save ingredients

New motor data charts show how to select the right Neptune liquid meters for closer formula, inventory and cost control. Covers more than 100 industrial liquids, including cold, warm and hot water, oils, syrups, brines, soap solutions, and many chemicals. Also discusses automatic batching.

Send for Catalog 566-KI Today!

NEPTUNE METER COMPANY
50 West 50th St., New York 20, N. Y.

Branch Offices
ATLANTA • BOSTON • CHICAGO • DALLAS
DENVER • NO. KANSAS CITY, MO.
LOS ANGELES • LOUISVILLE • PHILADELPHIA
PORTLAND, ORE. • SAN FRANCISCO

If you write maker identify as IEN - 10945

If you write maker identify as IEN - 10946

Standard interchangeable parts are quickly assembled to forms such as:

SCAFFOLDS—For building upkeep.
STATIONARY TOWERS—For stack repairs.
ROLLING TOWERS—For equipment maintenance.
WORK PLATFORMS—For assembly of large machinery.
RACKS—For storage of stock, etc.
and many other practical applications.

Multi-Purpose, Re-Usable Equipment

Every industrial plant — large or small — can find profitable uses every day for portable Safway Scaffolding. This versatile equipment may be used and re-used in a great variety of forms to provide convenient platforms for elevated work. You gain in many ways:

1. Work can be completed faster and better from platforms that provide plenty of elbow room at the proper location.

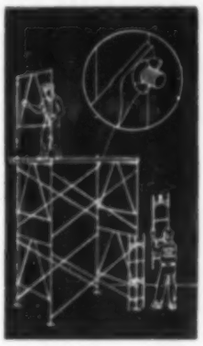
2. Safway Scaffolds are quickly assembled to any required shape and height . . . are easy to dismantle and store.

3. Scaffolds or towers can straddle machines and aisles without halting production or traffic.

4. Casters with safety brakes can be used to roll towers quickly to and from the job, or for progressive work on walls, ceilings, lights, etc.

5. Maximum safety is provided for workers on the scaffold as well as other employees below it.

Tubular steel Safway Scaffolding will save you money by getting your maintenance jobs done quicker, better and safer. Ask for literature—learn now how you can put this useful equipment to work on many important jobs.



Write for Free Bulletin IEN-1052

RENTED and SOLD by distributors everywhere

SAFWAY STEEL PRODUCTS INCORPORATED
6228 West State St.
MILWAUKEE 13, WIS.
Manufacturers of Tubular Steel Scaffolding and Equipment

If you write maker identify as IEN - 10948

CHECK THESE PRACTICAL, MONEY-SAVING FEATURES

A thermostatic trap, the simplest and least expensive of all traps, is practical because of Thermolier's exclusive cooling leg.

Maximum capacity assured, annoying destructive water hammer eliminated — by built-in pitch of tubes and internal cooling leg which assure continuous drainage of condensate.

Damaging strains caused by expansion and contraction eliminated by "U" type expansion tubes.

Safety and durability assured with leak-proof tube-to-header construction.

Five other important construction features. Write for Catalog.

GRINNELL

WHENEVER PIPING IS INVOLVED
GRINNELL COMPANY, INC.
Providence, R. I.

If you write maker identify as IEN - 10949

THESE VALVES . . . HAVE CURED A LOT OF MAINTENANCE HEADACHES because they AUTOMATICALLY ADJUST FOR WEAR

Wear, that in most valves would cause leakage and necessitate complete valve renewals, simply doesn't faze a HOMESTEAD-REISER. Its two-piece, wedge-acting plug constantly and automatically adjusts itself to make up for wear as wear occurs. The valve acts on its own. It is SELF-SEALED! Result: Extra long, leakless service life . . . more operations between lubrications . . . less maintenance . . . lower plant operating costs. Available in semi-steel or cast steel. 100% port area or Venturi type, sizes ½" to 14" for steam working pressures to 150 lbs.; or oil . . . water . . . gas to 200 lbs.

Complete data and prices sent on request. Write today for VALVE REFERENCE BOOK No. 39. No obligation.

HOMESTEAD
VALVE MANUFACTURING COMPANY
"Serving Since 1892"
P. O. Box 85 Coraopolis, Pa.

HOMESTEAD-REISERS SEAL THEMSELVES. The wedge action of the two-piece plug under line pressure, presses the plug outward against the body, keeping plug and body surfaces in contact at all times. This automatic adjustment for wear assures extra long life and maximum leakless service.

HOMESTEAD-REISER
Self-Seald . . . Lubricated
PLUG VALVES

If you write maker identify as IEN - 10950

MACHINERY MFR. CUTS PRODUCTION TIME 50%

Using Slo-Speeds on cold metal processing equipment we manufacture, we show savings of approximately 50% in construction costs, reports Mr. George H. Slagle, owner, Slagle Beryllium Co., Havertown, Pa. . . . and our customers gain an important economic advantage through lower equipment costs.

STERLING SLO-SPEED GIVES YOU THE ONE BEST LOW SPEED AND gives uninterrupted service — carries heavy overhung loads — provides versatile mounting and flexibility in arrangement of machinery — saves valuable space — provides greater safety — costs less to install and use. An indispensable source of low speed power for:

Agitators	Dryers	Presses
Blenders	Feeders	Pumps
Blowers	Kilns	Screens
Conveyors	Mills	Tumblers
Cookers	Mixers	Etc., etc.

70 ILLUSTRATIONS showing how Sterling Electric Power Drives reduce production costs. Write for Bulletin No. C-127.

STERLING ELECTRIC MOTORS

Plants: New York City 51; Van Wert, Ohio; Los Angeles 22; Hamilton, Canada; Santiago, Chile • Offices and distributors in all principal cities.

USEFUL INFORMATION

(Continued)

If you write maker identify as IEN - 10951

MANAGEMENT . . New organization formed to promote technological advancement in the USA

Council for Technological Advancement
120 S. La Salle St., Room 846, Chicago 3, Ill.

Sponsor of the new organization named above is the Machinery & Allied Products Institute with which it will be affiliated. The Council has as its purpose "to program, to pioneer and to promote ideas for a more dynamic economy." Bulletin 1, 6 pages, states the purpose in detail and lists 10 fields of activity in which the Council intends to operate.

If you write maker identify as IEN - 10952

MANAGEMENT . . Company's standards published in looseleaf bulletin form to detail its specifications

General Motors Corp.
3042-46 W. Grand St., Detroit 2, Mich.

You now can purchase a set of the company's Materials and Processes Standards as letter-size sheets in two loose-leaf binders. They cover specifications and material numbers on such products as steel, cast iron, powdered-metal bearings, alloys, chemicals, other materials, lubricants, fuels, and on process methods, metallography, electrical data. Initial subscription is $15 per set. Revision service is $7.50 per year. Address the Production Engineering Section when you write.

If you write maker identify as IEN - 10953

MANAGEMENT . . Movies on electrical subjects reviewed, classified and indexed in new 56-page booklet

National Electrical Mfrs. Association
155 E. 44th St., Room #3, New York 17, N. Y.

1952 Edition of the "NEMA Movie Guide" presents information on 400 16-mm. motion pictures, sound and silent, that deal with electrical subjects. These include films from manufacturers, insurance companies, trade associations and others. They are listed alphabetically by title along with a review. An index lists subjects from Aircraft to X-Ray.

If you write maker identify as IEN - 10954

MANAGEMENT . . Government procurement booklet tells how it works and how to do business with Uncle Sam

Trilone Associates Inc.
3 Hudson St., New York 13, N. Y.

Answer to the question, "How can I do business with the Government?", is given in detail by new 16-page "United States Government Procurement Manual". It describes how Government procurement works, troubles in dealing with bidders, suggestions on making bids, converting to military production, how to finance defense contracts.

If you write maker identify as IEN - 10955

MILLING . . How to cut gear teeth on a milling machine is shown by instruction booklet

Cincinnati Milling Machine Co.
Marburg & Kline Sts., Cincinnati 9, Ohio

Instructions cover rack, spur, bevel, helical gears and worms in revised 60-page booklet, "Cutting Gear Teeth on a Milling Machine". Examples, selection of set-up and cutter, calculations, operating procedure are given for each. The last quarter of the booklet contains formulae and reference data.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10956

use VANCO

UP-BLAST POWER ROOF Ventilators

For Removing:
EXCESSIVE HEAT
NOXIOUS FUMES
CORROSIVE GASSES
"DEAD" AIR
OCCUPATIONAL DUSTS
RAPIDLY
EFFICIENTLY
POSITIVELY

A Weather-Tight Automatic Opening and Closing Power Ventilator

Delivers Perfect Air-Flow Without Resistance

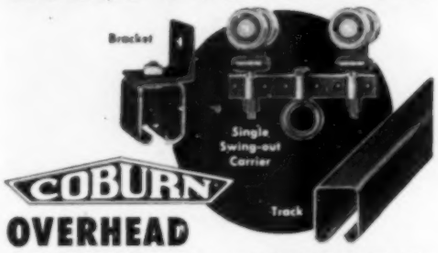
Send For Free Descriptive Bulletin

E. VAN NOORDEN COMPANY
ventilation designers and consultants
since 1873
186 Magazine Street
BOSTON 19, MASS.
Dept. 18-16

OTHER PRODUCTS
• Syphon Gravity ROOF VENTILATORS
• Superflo Continuous ROOF VENTILATORS

If you write maker identify as IEN - 10957

BOOST PRODUCTION



COBURN OVERHEAD CONVEYING EQUIPMENT

Meet today's need for maximum plant production, increased efficiency and faster handling of materials with Coburn Overhead Conveying Equipment. It gives you unobstructed floor space, requires very little headroom, makes it easy to spot work directly over machines. Loads up to 3000 lbs. handled by hand chain or electric hoist; power-operated equipment also available.

For additional information write to Sales and Engineering, 56 Sterling St., Clinton, Mass., or consult your classified telephone directory. Write today for catalog #220.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION
CF&I

If you write maker identify as IEN - 10958

CERTIFIED SAFE...

Explosion-Proof
TOTALLY-ENCLOSED

US MOTORS

For hazardous locations where open motors are prohibited; also for dirty, dusty, damp settings where ordinary motors are short-lived. With or without Fire Underwriters' label. With or without fan. Insures safest power, longest life. Asbestos-protected windings. Horizontal and vertical types. ¼ to 75 h.p. Write for Bulletin No. 1784.

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Cal. or Milford, Conn.

If you write maker identify as IEN - 10959

BARCO *High Pressure* SWIVEL JOINTS

for
HYDRAULIC SERVICE
Tubing or Pipe

NO BINDING—A Barco design advantage! "Side Flexibility" in joint compensates for misalignment; simplifies and speeds up installation.

LEAKPROOF—A choice of precision-made seals for highest pressures, temperatures, and steam or corrosive service.

SMALL, LIGHT, COMPACT—Standard models for ¼", ⅜", ½" and ⅝" O. D. tubing (A/N, flared, or Ermeto) or comparable size pipe threads. Angle or straight connections.

PRESSURE SAFE—The seal will not break or blow out suddenly. Built to 5000 psi working pressure standards, steel or aluminum. *Send for literature.*

BARCO MANUFACTURING CO.
1838L Winnemac Avenue, Chicago 40, Illinois
In Canada: The Holden Co., Ltd.

If you write maker identify as IEN - 10960

Plant fire or explosion . . . employee sickness or injury . . . machinery damage or product contamination are but a few of the hazards of dust that make dust an expensive waste.

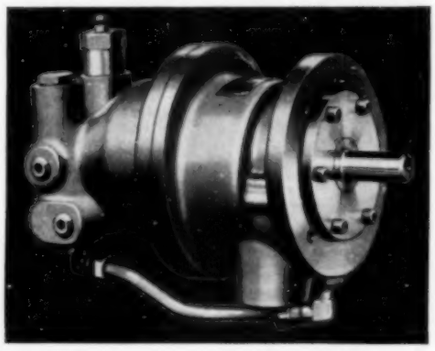
With Exidust on the job, the hazards just do not exist. Powerful suction action of Exidust Cleaners pick up any material—soot or sand . . . flour or coal dust . . . grime or metal bits on any floor, wall, ceiling or other surface.

Built around a centralized Billmyre Vacuum Producer and separator-filter tank with inlet values strategically located on each floor, the Exidust Cleaners are custom engineered to meet individual plant requirements.

In use for over 30 years in practically every industry is your assurance that Exidust will not only operate efficiently in your plant but economically, too. Send for Exidust Bulletin D-5. Write: Lamson Corporation, Billmyre Blower Division, 450 Lamson St., Syracuse 1, N. Y. Offices in principal cities. Consult your Redbook.

If you write maker identify as IEN - 10961

New Oilgear Constant Delivery Axial Piston Pumps (Generators)



New . . . yet records show these are the RIGHT pumps for continuous heavy-duty service

The Oilgear Company announces three new constant delivery axial piston pumps for pressures up to 3000 and 5000 psi, speeds up to 1800 r.p.m. These compact units feature patented balanced flat valves, patented simple one-piece rolling pistons, patented quiet reverse flow high pressure and supercharging relief valves and 100% supercharge volume. Oilgear's exclusive flat valves provide high volumetric efficiency and assure an adequate oil film on working surfaces; their *RIGHT* design for exceptional durability has been proven on over 100,000 installations. For years, several million of Oilgear's exclusive rolling pistons have demonstrated they are the *RIGHT* design for heavy-duty service. These units are *RIGHT* for heavy-duty pushing, pulling, lifting, lowering, maintaining high static loads as on clamping cylinders, for service in iron, steel, metal working, plastic, automotive, rubber, printing, lumber and textile industries. These pumps are:

RIGHT—for your heavy-duty applications.
RIGHT—for your high static load requirements.
RIGHT—for your precise hold-down jobs.
RIGHT—for long, trouble-free service.
RIGHT—for quiet operation under varying loads.

Write for Illustrated Bulletin 46601

THE OILGEAR CO., 1567 W. Pierce St., Milwaukee 4, Wis.

OILGEAR *Fluid Power*

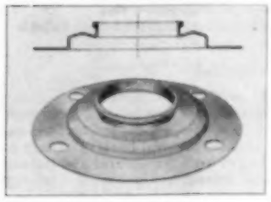
Pumps, Motors, Transmissions

THE **RIGHT** EQUIPMENT

If you write maker identify as IEN - 10963

PLASTIC . . Teflon molded parts available to order in specified shapes

Source: SPARTA HEAT-TREAT CO.
952 Thomas St., East Sparta, Ohio



Most any shape

New facilities have been installed and new processes developed by the company to enable it to mold Teflon plastic in intricate as well as simple shapes. The company now offers these facilities to make specified parts on a contract basis in production quantities.

The plastic is chemically inert. It will hold up in service in a temperature range between minus 320 deg. F. to plus 500 deg. F. It will not adhere to other materials. It has high resistance to erosion by impinging fluids. Coefficent of friction is low. Moisture absorption is practically zero. It has excellent dielectric properties and is proof against aging.

If you write maker identify as IEN - 10964

ELECTRIC DUCT . . Factory wired, receptacles on 30 inch centers

Source: WIREMOLD CO.
2 Wiremold Road, Hartford 10, Conn.

Supplements existing circuits

Plugmold 2000 is a new single raceway in the company's line of electric duct. Its cover is cut to receive the company's prewired Snapicoil with NEMA grounded receptacles, duplex two-wire receptacles, both "hot", or duplex three-wire receptacles with one side switched and one side "hot".

Required lengths of base are mounted to a wall surface in a continuous run. The Snapicoil receptacles are then snapped into the openings in the raceway covers and the completed cover with receptacles is snapped into the base. The duct blends into the wall surface on which it is mounted and becomes a part of the baseboard and trim. It can be imbedded in plaster for semi-flush mounting.

If you write maker identify as IEN - 10965

INSULATING . . Resilient pad quiets and cushions office machines

Source: ANDREWS-ALDERFER CO.
1079 Home Ave., Akron 10, Ohio

Lessens office noise

Fabric top is embedded in a layer of foamed latex rubber in this new Andal Typad to cushion an office machine without materially changing the machine's working height. The pad is available in two sizes measuring 11 by 13 in. and 15 by 17 inches. The fabric top can be either green or gray on the green latex resilient base.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10966

PRECISION MEASURING

SCHERR MICROMETERS

Drop-forged steel frame easy to read. "No Glare" graduations. Guaranteed accuracy and unsurpassed workmanship.

For greater savings in dollars and better satisfaction, use "Scherr Tools".

Complete stock. All sizes — MM. or Inch.

MAUSER VERNIER CALIPER

For inside - outside and depth measurements in 1/1000, 1/128, 1/10mm and 1/20mm.

If not available from your dealer, order direct.

WRITE FOR ILLUSTRATED CATALOG

GEORGE SCHERR CO., Inc.

COMPLETE LINE OF PRECISION INSTRUMENTS

198-C LAFAYETTE ST. • NEW YORK 12, N. Y.

If you write maker identify as IEN - 10967

PORTELVATOR®

(THE HANDY HAMILTON PORTABLE ELEVATING TABLE)
LIFTS — LOWERS — LEVELS
TRANSPORTS

Eliminates "ganging-up" on heavy lifts. Reduces occurrence of industrial accidents. Eliminates the need for extra hands, extra trips.

STANDARD MODEL CAPACITIES TO 5000 POUNDS

SAFETY of OPERATION is inherent in the **PORTELVATOR** mechanical lift principle, which transmits power through worm, worm gear, and screw.

TAKE TIME TO LEARN THE DIFFERENCE
WRITE FOR BULLETIN P-508

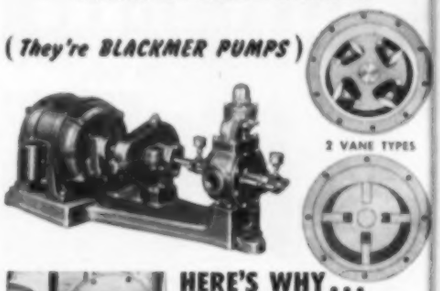
THE *Hamilton* TOOL COMPANY

905 HANOVER STREET • HAMILTON • OHIO • U • S • A

If you write maker identify as IEN - 10968

YOU NEVER SCRAP PUMPS LIKE THESE!

(They're BLACKMER PUMPS)



HERE'S WHY . . .

Blackmer Rotary Pumps are self-adjusting for wear. When finally worn out, change the vanes, like changing blades in a razor, and you save the cost of a new pump.

Learn how Blackmer's two vane types offer the most efficient pump for your specific applications. Write for Folder "G-1-A" . . .

BLACKMER PUMP CO., GRAND RAPIDS, MICH.

If you write maker identify as IEN - 10969

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE* ROLLS

Minimum Sizes 3" diameter and 3" face length

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48

Most complete publication of its kind

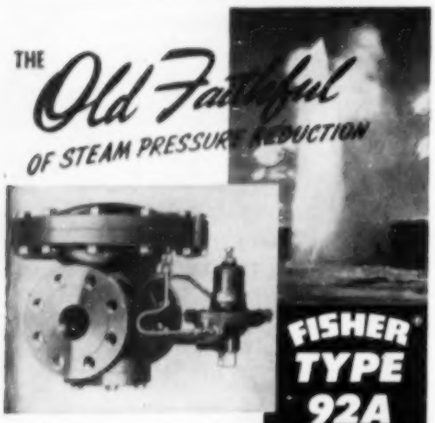
Industrial Roll Division

RODNEY HUNT MACHINE CO.
273 Main Street, Orange, Mass.

*Reg. U. S. Pat. Off.

If you write maker identify as IEN - 10970

THE *Old Faithful* OF STEAM PRESSURE REDUCTION



FISHER TYPE 92A
PILOT OPERATED CONTROL VALVE

SINGLE SEATED TIGHT CLOSURE

Two interchangeable pilot assemblies available for high or low pressure service.

Power engineers everywhere have ok'd the FISHER TYPE 92A for steam pressure control! It's an accurate, compact, flexible, sturdy controller, designed, built and proved to meet the **most exacting requirements** for steam service.

WRITE FOR BULLETIN C-3

FISHER GOVERNOR CO.
MARSHALLTOWN, IOWA

If you write maker identify as IEN - 10971

Generalift ★★★★★
PALLET BOXES

CUT MATERIALS HANDLING COSTS

REDUCE STORAGE COSTS

SEND FOR FREE BOOKLET TODAY

GENERAL BOX COMPANY..
★★★★★ *engineered shipping containers*

GENERAL OFFICES: 1815 Minor St., Des Plaines, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Danville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon
Continental Box Company, Inc., Houston, Dallas
General Box Company of Mississippi, Meridian, Miss.

If you write maker identify as IEN - 10972

BE CERTAIN

GET BRONCO 60 *Certified*

the portable-cords and cables with 60% by weight Neoprene jackets.

BRANDED!

BRANDED JACKETS! No mistake. You know you are getting *Certified*. You read at a glance cable type, size, voltage. "P116BM" which indicates approval by the Pennsylvania Bureau of Mines, and acceptance for listing by the U. S. Bureau of Mines. Easy to measure . . . "Bronco" is repeated every 3 feet.

With Bronco 60 *Certified* you know you are getting a full 60% by weight of Neoprene in your cable's protecting jacket because its contents are *certified*.

More Neoprene makes long-lasting Bronco 60 *Certified* more resistant to oil, acids, alkalis, ozone, gasoline, salt water.

In addition, with Bronco 60 *Certified* you get 1. Cold Rubber Insulation. 2. Branded Jackets. 3. Superior Flexibility.

So, BE CERTAIN, GET *CERTIFIED* — the greatest cord value on the market!

SOLD NATIONALLY BY ELECTRICAL WHOLESALE DISTRIBUTORS

WESTERN INSULATED WIRE CO.
Los Angeles 58, California

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN - 10973

PRESS TOOLS . . Examples of progressive dies are shown by strip illustrations in new 16-page bulletin

B. John Mfg. Co.
202 Ellis St., New Britain, Conn.

Production parts made by the millions in the company's progressive dies are illustrated in its new bulletin, "The Story of B. Jahn". Most of the illustrations show the blanked and formed strip along with sample finished parts. You may be interested to see the variety of work represented and the way the operation sequences are arranged.

If you write maker identify as IEN - 10974

PROCESSING . . Movie on diatomite describes its formation, mining and process applications

Johns-Manville
22 E. 40th St., Room 1201, New York 16, N. Y.

"Celite" diatomaceous silica is the subject of new 16-mm. 395-minute sound color film of the same name available on loan. It describes how mineral deposits were formed from living diatoms, how diatomite is mined and converted into useful forms, how it is used as a filter aid, as a catalyst carrier and as a mineral filler in a variety of products.

If you write maker identify as IEN - 10975

SEALING . . Booklet on O-rings tells how to use them alone and with leather backup rings

Graton & Knight Co.
324 Franklin St., Worcester 4, Mass.

Effect of pressure and groove design on O-rings is shown by a set of drawings in new 16-page booklet "O-Rings". Tables list standard units with dimensions for recommended groove size. Other tables and drawings present information on leather backup rings. One detail drawing shows arrangement when pressures exceed 1,500 pounds.

If you write maker identify as IEN - 10976

STEELS . . Summary chart on alloy steels shows Government specification analyses and forms

Peter A. Frasse & Co.
15 Grand St., New York 13, N. Y.

New file-size chart on alloy steels, D-1 in the company's Useful Data series, is printed on cardboard with a reference tab. It is a chart of Government specification analyses with corresponding forms and SAE, AISI and AMS designations that apply. These analyses include MIL, AN, QQ numbers.

If you write maker identify as IEN - 10977

TAPES . . How others are using them is shown by captioned pictures in house publication

Industrial Tape Corp.
Highway One, New Brunswick, N. J.

New format is announced for "Industrial Review", company's house publication on its pressure-sensitive tapes. Pictures are used more liberally than before, particularly to show a sequence, with a minimum of text. Issue No. 21 shows use of the tapes in the manufacture of mica, small motors, large pipe, in insulating underground pipe line, and in packaging.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10978

WON'T SMUDGE • RESISTS: DIRT GREASE WATER ACIDS

LABELON PLASTIC *Write on it* TAPE

STICKS WITHOUT MOISTENING

Nothing else like LABELON—the amazing "Write on it" plastic tape! Use it to label stockroom shelves, bins, tools, hard-to-mark parts; for indicating rejects and service department repairs; for marking laboratory equipment, supplies, experiments; for panel boards or wiring; for office files, folders, etc.

FOR LAB, STOCKROOM, SHOP, OFFICE, ETC.

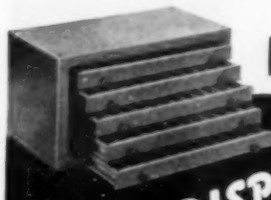
LABELON TAPE sticks without moistening to any smooth, clean surface—yet can be quickly removed. Resists heat up to 160°. Just write on it with pencil or stylus—message won't smudge. Choice of widths and colors. Handy dispenser with cutter bar.

See your nearest dealer, or write for sample and prices.

Write to Dept. IE

LABELON TAPE CO., INC.
450 Atlantic Ave. Rochester 9, N. Y.

If you write maker identify as IEN - 10979



HUOT DRILL DISPENSER

Eliminates Rummaging Through Stacks of Drills

No more running out of drills—your entire stock can be seen at a glance. Each size of drill has its own compartment with rounded bottom for easy selection. You can store dozens of small drills and several large ones in their own compartments. Built-in pricing or inventory system eliminates the need for cost sheets, and will keep a record of drills on hand. *Specifications:* 14½" long, 7¼" high, 7¼" deep. Hammerlin baked enamel finish over rugged steel.

Made in three models for fractional, number or letter drills

Write for Circular

By the makers of HUOT DRILL INDEX

HUOT MANUFACTURING CO.
"HUOT" is pronounced "NEW-OT"
565 No. Wheeler St., St. Paul W4, Minn.

If you write maker identify as IEN - 10980

RE-ORDERS

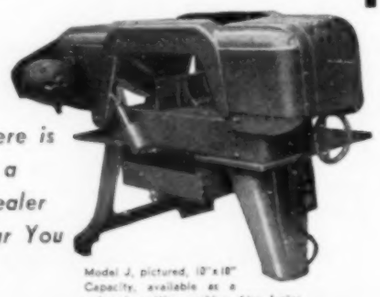
From Prominent Users of More Than 10 Years Prove the DEPENDABILITY of JOHNSON METAL CUT-OFF BAND SAWS

They Buy

AGAIN and AGAIN!

There is nothing more convincing of the excellence of a product than constant re-orders. . . . And that is what Johnson enjoys. . . . Users over a period of years prefer to re-order Johnson Band Saws because they're satisfied; they have confidence in Johnson Saws. They know from past experience that they are getting the best value for their money, the best performance. You, too, should investigate this leading line. Learn about Johnson's high machining standards, close tolerances, speed, accuracy and adaptability. Write for catalog today.

There is a Dealer Near You



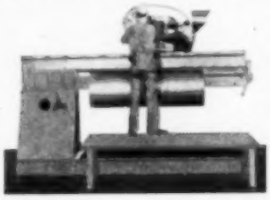
Model J, pictured, 10" x 10" Capacity, available as a wet or dry cutting machine. Also Junior Model B, (with or without casters) 5" x 10" Capacity.

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

If you write maker identify as IEN - 10982

REED ENGINEERING COMPANY

1009 W. FAIRVIEW • CARTHAGE, MISSOURI



HORN TYPE WELDING JIGS

★ IN 6 MODELS, CAPACITIES UP TO 9 FT. X 3/8 IN.
★ IN 2 STYLES FOR LIGHT OR HEAVY SHELLS
★ WATER-COOLED COPPER WELD BACKING BARS
★ POSITIVE, RIGID, TOGGLE-ACTION CLAMPING
★ TRACK FOR ANY AUTOMATIC WELDING HEAD

WRITE FOR BULLETIN 66

✱ MODERN METALWORKING MACHINES
✱ BENDING ROLLS ✱ WELDING FIXTURES
✱ FORMING MACHINES ✱ TURNING ROLLS
✱ SPECIAL MACHINES & FIXTURES

If you write maker identify as IEN - 10983

OHMITE WIRE-WOUND RESISTORS

BUILT FOR LONG LIFE AND TROUBLE-FREE SERVICE

Ohmite wire-wound resistors are ruggedly constructed to withstand shock, heat, fumes, and humidity. A sturdy ceramic core provides a strong base for the resistance wire, which is wound with an unsurpassed uniformity to prevent "hot spots." This winding is held rigidly in place and protected by a special vitreous enamel coating. Terminal lugs are tin-dipped for ease in soldering, and windings are brazed or welded to the lugs to assure perfect connection. Ohmite resistors are available in a wide range of types and resistance values, in ratings from 5 to 200 watts.

Write on company letterhead for Engineering Catalog No. 40

OHMITE MANUFACTURING CO.
4813 Flournoy St., Chicago 44, Ill.

Be Right with OHMITE
RHEOSTATS • RESISTORS • TAP SWITCHES

If you write maker identify as IEN - 10985

WELDING . . Interchangeable heads for company's acetylene torches

Source: LINDE AIR PRODUCTS CO.
30 E. 42nd St., Room 308, New York 17, N. Y.

Quick change without tools

Thirteen new welding heads are now available to fit interchangeably on the Prest-O-Weld Types W-121 and W-122 welding torches. The heads cover a range of metal thickness from 32 gage to 1 in. or more. Each head is snap-in design and is attached to either torch by a hand tightening connection nut. Synthetic rubber O-rings seal the connection. Size numbers from 2 to 100 are stamped on the heads to indicate flow rate in cfh. of oxygen and acetylene when the heads are used at recommended operating pressures.

If you write maker identify as IEN - 10986

PROCESSING . . Ion exchange resin in 25 lb. packages for laboratory use

Source: FISHER SCIENTIFIC CO.
719 Forbes St., Pittsburgh 19, Pa.

Employed in exchange columns

Amberlite, the Rohm & Haas ion exchange resin, is now available in a purified analytical grade in 25-lb. packages for laboratory use. It will remove nitrogen compounds from oils in non-aqueous media. It replaces mineral acids in organic catalysis. It conserves scarce materials by absorbing complex metallic ions from process, waste waters in metal recovery. It is suitable for purification of organic materials. Reactants are continuously passed into the top of the resin column. Reaction products are drawn from the bottom.

If you write maker identify as IEN - 10987

CENTERING . . Dial indicator to center rotating work, read runout

Source: SUPERIOR INDICATOR CO.
P. O. Box 734-A, Rochester 3, N. Y.

About $8 complete

Ball contact is pivoted at one end of this new indicator to actuate a pointer over a scale reading to 0.010 inch. The contact is made of hardened steel and is 1/8 in. in diameter. It can be unscrewed from its position to expose a similar 3/32-in. ball unit. A third extension contact with a 3/32-in. ball measures 1/2 in. in length and can be screwed on over the short one. The indicator applies in connection with work and tool centering. It reads run out in thousandths. The unit is chromium plated and fitted with a glass lens to exclude dust.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 10988

MILL IT faster.. SAVE LABOR!

Kent-Owens advanced features mean *speed, accuracy* and *dependability*... in tool room or production milling. Rugged . . . simple in design and operation. Saves labor . . . reduces costs! Write for bulletins on wide range of hydraulic and hand-operated machines. Kent-Owens Machine Co., Toledo, Ohio.

No. 2-20 Milling Machine
Table, 42" x 12"
Table travel, 20"

KENT-OWENS
Milling Machines

If you write maker identify as IEN - 10989

ECONOMY-WISE?

BUY MOLDED PLASTICS BY
GRIGOLEIT

The best for less has been a habit with Grigoleit for over a quarter century. Economy, service and sales appeal combine to give your product a "new look" in molded plastics. A complete line is available for your selection. Prompt delivery assured, providing you order now.

GRIGOLEIT is now in a position to accept orders for the manufacture of small finished plastic stampings for appliance trim.

THE GRIGOLEIT COMPANY

If you write maker identify as IEN - 10990

Cut Welding Time 40%!

Get fewer rejects!
No burn-throughs!
100% penetration!
X-ray quality!

Use a P&H AC Welder
—the only welder with Instantaneous Control

Ideal for use with inert gas. Lets you handle "hard-to-weld" metals with ease — aluminum, magnesium, brass, copper, stainless, high carbon, high alloy, and low carbon steels.

A touch of your toe instantly gives you the exact heat you need — there's no time lag! And there's no burn-back to oxidize the metal before you get started.

Only the P&H Inert Gas Welder saves production time these five ways: (1) Foot switch automatically starts power, high frequency, gas, water. (2) Arc starts instantly without touching work. (3) Foot control instantly provides exact heat needed *while* welding. (4) Foot switch cuts power and high frequency immediately or gradually at completion of weld. (5) Automatic time delay shuts off gas and water.

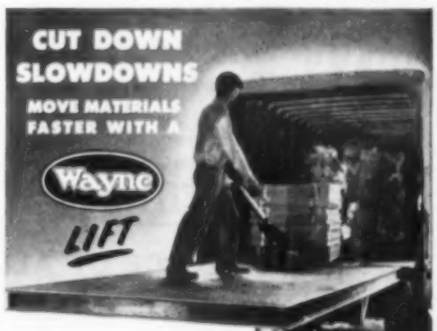
There are more outstanding P&H AC Welder features. Ask your P&H representative to tell you about them — or write us for further information. 2427A

P&H WELDING DIVISION
HARNISCHFEGER CORPORATION
4520 W. National Ave.
Milwaukee 46, Wis.

POWER SHOVELS • CRAWLER AND TRUCK CRANES • OVERHEAD CRANES • HOISTS • ARC WELDERS AND ELECTRODES • SOIL STABILIZERS • DIESEL ENGINES • PRE-FABRICATED HOMES

If you write maker identify as IEN - 10991

CUT DOWN SLOWDOWNS
MOVE MATERIALS FASTER WITH A Wayne LIFT



From receiving platform through production to shipping dock there's a Wayne Industrial Lift to save you time, labor and money. Every one is "precisioneered" . . . made to last for years without trouble. Every one is custom engineered to the particular needs of your plant.

Wayne Lifts include tilting docks, ramps, sidewalk elevators, materials lifts, crossover bridges, industrial truck service lifts and many others. Wayne Engineers are skilled in designing Wayne Lift Systems for improved production in your plant. Write today for data.

THE WAYNE PUMP CO.
SALISBURY, MARYLAND • TORONTO, CANADA

Address Correspondence to

Wayne NATION WIDE SERVICE

WAYNE LIFT DIVISION, Ironton, Ohio

If you write maker identify as IEN - 10992

Assure Free-Flowing Bins, Hoppers and Chutes with

SYNTRON

"Semi-Noiseless"

ELECTRIC VIBRATORS

with variable control of power

New, Syntron presents a complete line of Semi-Noiseless Electric Vibrators for use in installations located close to workers where noise is a major factor.

They operate the same as standard Syntron Vibrators—assure a smooth, controlled flow of material—prevent loss of costly time due to material coming "short" on dependent operations—provide a safety factor by eliminating the necessity for your men to climb ladders or framework and balance in precarious positions while spading, rodding or sledging clogged materials.

They can be applied to any size and shape of bin, hopper and chute—whether made of steel, wood, or concrete. New "cushion" action provides a sharp reduction in the operating noise.

Write Today For Free Catalog Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN - 10993

Air Operated
ROTARY WORK FEEDER

Deftly holds and delivers small parts to drill, tap, swage, stake, etc. Stations accurate to .002". Guaranteed against over-travel or "skipping." Indexes as slow or fast as you like, up to 10,000 per hour. Compact and sturdy, easy to tool and hook up.

Standard dial plate 10"; available in 12". For a new job, simply tool up a new dial. Readily combines with "MEADMATIC" Timer, Air Hammer, Air Press, Drill Presses, etc.—to make almost completely automatic machine—operator merely loads.

Write for full details.

MEAD
SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. EA-102, Chicago 41, Ill.

If you write maker identify as IEN - 10994

LARGE OR SMALL
SHORT OR TALL

Electroline Fittings

ARE THE CHOICE OF ALL

There's an Electroline Wire Rope Fitting to suit your every need. Actual tests have proved their great holding power in all applications, regardless of size or type.

Electroline Fittings are installed easily and safely with ordinary tools—by unskilled labor in a matter of minutes—without the danger of molten metal or acids—without blow torches or special tools.

To give you the whole story of Electroline Wire Rope Fittings, we have prepared a pocket-size illustrated catalog, filled with information of sizes and types. Why not send for your copy today?

Electroline
COMPANY
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERLITE DEVICES, LTD., TORONTO

USEFUL INFORMATION
(Concluded)

If you write maker identify as IEN - 10995

THREADING . . Information on pipe threads emphasizes designations and differences in specifications

Eastern Machine Screw Corp.
138-42 Truman St., New Haven 6, Conn.

"Die Headlines" in its Vol. IV, No. 1 issue reviews the different types of American National pipe threads. It presents drawings and data tables on basic dimensions for taper pipe threads, shows how external and internal threads are measured, includes information on Dryseal and straight pipe threads, dimensions on wrought iron pipe.

If you write maker identify as IEN - 10996

TUBES . . Fabricating instruction manual on welded steel tube describes equipment and methods

Armco Steel Corp.
701-5 Curtis St., Middletown, Ohio

Cutting, bending, swaging, joining are principal topics in new 28-page manual, "How to Fabricate Armco Welded Steel Tubing". There is a diagram on how to do bending without a mandrel and a table of limits for standard bends. Other diagrams show examples of swaging work. Manufacturers are named for the equipment illustrated.

If you write maker identify as IEN - 10997

TUBES . . Boiler tube corrosion and methods of preventing it are described by reprint

Babcock & Wilcox Tube Co.
4027-31 Fourth Ave., Beaver Falls, Pa.

H. F. Hinst, Chief Metallurgist for the company's Keystone plant, is author of an article in the technical literature now available as 8-page reprint Bulletin TR-514. Title is "How You Can Avoid Boiler Tube Corrosion". The article outlines types and causes of tube corrosion, suggests methods to forestall or to minimize it, lists a set of general rules.

If you write maker identify as IEN - 10998

VALVES . . Information on design of air-operated valves for control and line use

Conoflow Corp.
2102 Arch St., Philadelphia 3, Pa.

R. B. Werey, company's president, has written new 16-page Bulletin 106 in the form of a technical paper. It carries the title, "New Techniques in Control Valve Design". In it he describes fundamentals of pneumatic-operated valve design, features of the company's Conomotor and Rotomotor valve operators, and shows sectional drawings of both.

If you write maker identify as IEN - 10999

WELDING . . Cardboard slide selector compares company's electrodes with 20 other makes

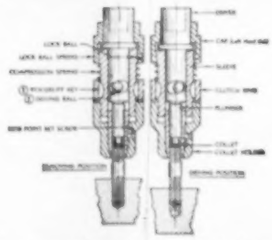
General Electric Co.
Dept. 6X-201, Schenectady 5, N. Y.

Move the slide of new 9 by 3¼-in. "Welding Electrode Comparator" to any of 20 makes of electrode at one window on its face. Then you can read this maker's designations for his electrodes against those of the company at other windows. These also give the standard AWS designations. Ask for GEN-37B at your distributor.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 69

If you write maker identify as IEN - 11000

TITAN AR SERIES
Stud Driver and Remover



Engineered for the Aircraft Industry

Mutilation, scraping of stud threads — and distortion of cotter key holes — are eliminated by the new TITAN high speed, collet type, stud driver!

Unique in design, practical in use, the stud is driven by PITCH DIAMETER PRESSURE instead of pressure on top of the stud. Saves studs, saves time, speeds your work!

Write for Literature and Prices, TODAY!

TITAN TOOLS
TITAN TOOL CO.
Production Tools
46 MAIN ST., FAIRVIEW (ERIE COUNTY), PA.

If you write maker identify as IEN - 11001

LANG Tool and Die Manufacturing Company, Glendale, California, use Cerromatrix to anchor small punches in high-production lamination dies. They guarantee these dies for 2,000,000 blanks minimum.

Punches are held vertically by cap screws and mounted in Cerromatrix. Very small punches are held by circular washers outside and inside of punch, located in a ⅛" groove ground in the punch. All small punches are guided through a fixed stripper with Nitrided inserts.

At least 1/3 of the length of the punches is held in Cerromatrix. The photograph shows a die for rotor and stator blanks. It runs 135 strokes per minute. Eighty to eighty-five thousand blanks are obtained per sharpening of die. Send for literature.

CERRO de PASCO Corporation
(Formerly Cerro de Pasco Copper Corporation)
Dept. 6 • 40 Wall Street • New York 5, N. Y.

If you write maker identify as IEN - 11002

See the new Heavy Duty
No. 500
Speed Way
½" Speed Drill

- All Ball Bearing.
- Wide-face Helical Gears—precision hobbed from nickel alloy steel.
- Integrally Die Cast Aluminum Body and Frame—all structural and supporting members die-cast-in.
- More Powerful Heavy Duty Motor 5½ Amp. input and ⅓ H.P. output.
- No. 34B Jacobs Geared Chuck and finest Electrical Equipment.
- Compact, Powerful, Light—weighs only 10 lbs.

WRITE FOR CATALOG
SPEEDWAY MFG. CO.
3885 So. 52nd Ave., Cicero 50, Illinois

If you write maker identify as IEN - 11003

SEE FOR YOURSELF—Next time try a
FORT WORTH TRANSCO QD SHEAVE

FORT WORTH WAREHOUSES MEAN BETTER V-DRIVE SERVICE

You will receive the best in service, sheaves, and V-belts when you buy a Fort Worth-Transco V-drive.

Two manufacturing plants and a large foundry, designed to make sheaves, assure volume production even in periods of short supply. Factory warehouses in most large industrial centers supplemented by numerous stocking distributors provide quick delivery of stock sizes.

We will be pleased to advise you the name of your nearest stocking distributor.

"QD" HUB ALSO FITS NEW FORT WORTH "QD" Roller Chain Sprocket

Speed changes are simplified and "spare" sheaves and sprockets are no longer more costly.

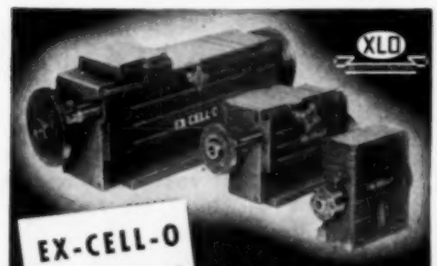
If your favorite die-maker doesn't stock the Fort Worth QD line — both sheaves and sprockets, tell him about them. He'll reward you with better service.

Write for descriptive catalogs on "QD" Sprockets and Sheaves, and they will be sent to you immediately.

FORT WORTH STEEL AND MACHINERY CO.
Dept. 210, 3600 McCart St., Fort Worth, Texas

FORT WORTH ACCESSORIES
ROLLER CHAIN SPROCKETS
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

If you write maker identify as IEN-11004



EX-CELL-O HYDRAULIC POWER UNITS

...For Your Special Purpose Machines

Ex-Cell-O Hydraulic Power Units provide a compact, flexible source of power for feeding, rotating and retracting cutting tools. They are especially suitable for automatic drilling, reaming and counterboring, using a single tool held directly in the spindle nose, or using two or more tools in a multiple spindle head. Three standard units are available—styles 28-A, 21 and 20, shown above. For full information send for Bulletin 45361.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

If you write maker identify as IEN-11005

Fitted for Every Job Need

DIPPED NEOPRENE INDUSTRIAL GLOVES

SAFE—They can help prevent costly accidents. The rough-surface fingers assure positive, easy gripping. And Neoprene withstands gasolines, oils, greases and corrosive chemicals.

COMFORTABLE—The curved finger construction conforms to the natural curve of hand—eliminates straining and pulling. Highly flexible, they permit easy, natural working motions.

ECONOMICAL—They are built for long wear and tough service. Full range of sizes, lengths and weights. U. S. technical men will be glad to analyze your glove needs and recommend the correct glove for each of your jobs. Available from your nearest United States Rubber Company Branch.

U. S. INDUSTRIAL GLOVES

UNITED STATES RUBBER COMPANY

If you write maker identify as IEN-11007

PACKAGING . . Liquid dispenser for delivery into pipettes and vials

Source: NATIONAL INSTRUMENT CO.
5003-7 Queensbury Ave., Baltimore 15, Md.

List is $274

Model AB-4 is a new and larger design of the company's Filamatic liquid dispensing machine, previously described IEN-6459-52. It delivers measured amounts of chemicals, serums, antitoxins, biologicals into pipettes and vials at an adjustable rate between 60 and 90 units per minute. Quantity also is adjustable between 0.625 and 120 cc.

The machine is driven by a 1/30-hp. back geared motor with Thyratron speed control for operation on 110-volt 60-cycle ac. Operation is accurate within 0.1 per cent. Fluid is drawn in through a tube connection at the upper head and issues to a tube connecting above the inlet. Delivery is through a no-drip tip for insertion by the operator into the containers to complete the filling operation.

The motor drives a crank with an adjustable throw to which is attached the plunger portion of a glass syringe. The plunger faces upward, operates inside the syringe barrel which is secured to an upper head free to oscillate on a supporting arm. This arm can be adjusted up or down on the housing to take syringes of various capacities. Sufficient adjustment is provided at the crank for the full range of a given syringe. The assembly is completed by an electric counter that totals the number of delivery movements.

If you write maker identify as IEN-11008

REFRIGERATING . . Sub-zero machine to shrink, stabilize, test and store

Source: DEEPFREEZE DISTRIBUTING CORP.
3932 Reading Road, Cincinnati 29, Ohio

Circulates chilling fluid

Circulation of the convection fluid in the work chamber of the company's Sub-Zero machine is maintained at a positive steady rate by means of a new motor driven 4-in. propeller operating in an 8-in. draft tube in the work chamber. This new unit can be applied on the company's standard Type R-120 Sub-Zero machine with thermal capacity at 2,000 btu. per hour. It also is available on new units that can be specified for given work.

Mounting is in a section of the compartment lid which is secured in fixed position as shown in the illustration. Primary application is expected to be in operations involving mass production chilling of metal parts, such as bearings, to assure dimensional stability in their intended service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11009

Specify GM PRECISION-ENGINEERED

SERVO MOTORS

RELIABLE PERFORMANCE
RUGGED CONSTRUCTION

In the operation of—
- GUNFIRE CONTROLS
- ROCKET CONTROLS
- GUIDED MISSILES
- AIRCRAFT CONTROLS
- INDUSTRIAL CONTROLS

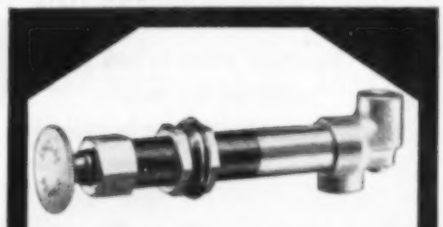
G-M Servo Motors can be supplied to meet rigid military specifications with regard to humidity, temperature range, vibration and altitude. Available in 2, 4 or 8 pole construction and for frequencies from 60 to 400 cycles.

Write today for complete information.

Another product of GM LABORATORIES • Inc.

4334 NORTH KNOX AVENUE, CHICAGO 41, ILLINOIS

If you write maker identify as IEN-11010



Kohler Engine Primer—specified by manufacturers of Diesel engines and personal airplanes for efficient, reliable priming.

KOHLER PRECISION CONTROLS
Aircraft • Industrial • Automotive

Kohler Co. is a leading supplier of precision controls to manufacturers of jet engines, military, commercial and private aircraft, agricultural and industrial test equipment, Diesel engines, automobiles, trucks, and tractors.

Our engineers develop, for volume production, valves, fittings and kindred equipment to specification. Write for catalog.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

If you write maker identify as IEN-11011

FREE!

Guide to industrial uses of Sundstrand Air Sanders

See how you can save time and money on production and maintenance jobs with *Straight-Line Action* Sundstrand Air Sanders. No swirls! No scratches! No pressure marks! Finish wood, metal, or plastics—flat or curved surfaces—with wet or dry sanding. Here are just a few of the uses pictured:

- Sanding filler on castings
- Preparing metal for priming and final finish
- Sanding plastics
- Wet sanding base coat on wallboard
- De-burring rivet holes on aircraft
- Polishing dies
- Refinishing boats, desks, work benches
- Sanding and rubbing fine furniture

Act now! Contact your local supplier or write for Bulletin IEN-10

SUNDSTRAND AIR SANDERS

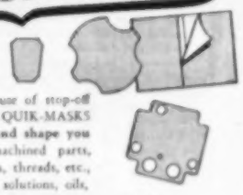
SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

If you write maker identify as IEN-11012

NEW MASKING METHOD

for SPRAY PAINTING • PLATING • SAND BLASTING

PRE-CUT SELF-STICKING QUIK-MASKS



Hundreds of plants now using Brady QUIK-MASKS are saving time and money **by completely eliminating** costly hand work, use of stop-off materials and metal shields. QUIK-MASKS are **pre-cut to the exact size and shape you need.** Protect name plates, machined parts, plated and polished sections, holes, threads, etc., from paint, plating and cleaning solutions, oils, acids and sand blasting.

QUIK-MASKS are pre-cut from special "SCOTCH" brand plating and masking tapes. They stick without moistening—are quickly applied and removed. Circles, squares, rectangles, hexagons, letters and numerals stocked in many sizes. Nameplates and other specials made to your exact requirements.

FREE SAMPLES

DISTRIBUTORS IN OVER 125 PRINCIPAL CITIES

W. H. BRADY COMPANY
756 W. Glendale, Milwaukee, Wis.

If you write maker identify as IEN-11013

Important points to look for when you buy trolleys
You get them all when you buy Link-Belt

LINK-BELT
LINK-BELT COMPANY
Dept. 21, 307 N. Michigan Ave.
CHICAGO 1, ILL.

If you write maker identify as IEN-11014

welded rings save weight and machining time!

If your product uses ring-shaped parts or subassemblies, we may be able to form them for you cheaper than you can now make them. Also save you weight, raw material and machining time. On many designs, our method eliminates machining entirely. Send for Dresser's "RINGS" folder.

"RINGS" folder shows Dresser method, examples of savings, etc. Write Dresser Manufacturing Division, 39 Fisher Ave., Bradford, Pa.

DRESSER RINGS
ONE OF THE DRESSER INDUSTRIES

If you write maker identify as IEN-11015

SCREENS . . . STRAINERS
TO YOUR SPECIFICATIONS
MADE BY
Specialists

We are SPECIALISTS. Our business, our only business is fabricating screens and strainers. By specializing we have assembled highly productive facilities, skilled technicians and engineers resulting in great production improvements and economies.

FABRICATION SERVICES
• Shearing • Soldering • Brazing • Welding • Crimping • Plating • Stamping

PITTSFIELD ENGINEERS will design a screen or strainer to meet the exact requirements for particle retention, flow capacity, limiting dimensions, of your product. Send sketch plus rough sketch for FREE quotation.

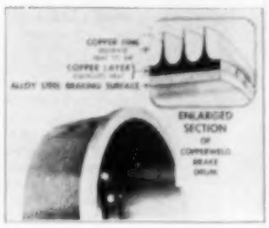
SEND FREE LITERATURE
Our problem is mainly:
Mr. ..... Firm .....
Street ..... City ..... State .....

PITTSFIELD PRODUCTS, Inc.
ANN ARBOR, MICHIGAN

If you write maker identify as IEN-11016

DRIVE . . Finned copper brake drum for aircraft, buses, trailers, trucks

Source: COPPERWELD STEEL CO.
39 Tolfold St., Glassport, Pa.



First will be for trucks

Certain refinements have been made in the design and the company is now starting production on its finned copper brake drum, previously described IEN-8003-47. The new design follows a five year period of road tests on a truck fleet where records now show an average life of about 300,000 miles per drum and about 100,000 miles per lining on the brakes employed with the drum.

Construction combines an inner drum of wear resisting alloy steel in bonded assembly with a ring of copper carrying fins that are brought out to thin rim sections. The assembly dissipates heat rapidly and distributes any that remains in the metal. The line will include sizes for standard vehicles.

If you write maker identify as IEN-11017

TESTING . . Electric instrument to check and calibrate dc. meters

Source: MARION ELECTRICAL INSTRUMENT CO.
403 Canal St., Manchester, N. H.

Accurate to 0.25 per cent

Metertester Model M-2 is a new multi-purpose instrument that assembles a regulated power supply, a stepless vacuum tube voltage control, an illuminated 8½-in. mirror scale meter, the company's Ruggedized null indicator movement for bridge balance indication, a decade of wire wound resistors and a direct reading bridge circuit in one unit.

In addition to checking and calibrating dc. meters the instrument can be employed as a precise source of current and dc. voltage, as a Wheatstone bridge with a resistance range to 5,000 ohms and as a production limit bridge for selection and test of resistance values. Operation is on 110-volt 60-cycle ac. Overall dimensions are about 15 by 10 by 5½ inches.

If you write maker identify as IEN-11018

FABRICATING . . Weldments and castings compared by booklet as to properties and performance

Acme Tank & Welding
1022 New Britain Ave., West Hartford 10, Conn.

Steel plate fabrication of machine parts by welding is summarized in new 24-page booklet, "The Facts about Weldments and Castings". It presents comparative properties of steel and cast iron with an analysis of relative cost of the two manufacturing methods. Weldment examples are illustrated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11019

MOBILIFT

Lev-R-Matic DRIVE
FORK LIFT TRUCKS
• STAND-UP AND SIT-DOWN MODELS
• GAS OPERATED—NO GEARS TO SHIFT
• A SIZE TO FIT YOUR NEEDS
2,000, 2,500 3,000, 3,500 lb. capacity Stand-Up Models.
2,000, 3,000 capacity Sit-Down Models.
63", 72", 83" Masts.
Special Masts to your order.
Write for complete specifications or contact your nearest Branch Office.

MOBILIFT Lev-R-Matic DRIVE
MOBILIFT CORPORATION
835 S. E. Main St., Portland 14, Oregon
2317 N. 18th, CHICAGO • 790 Patterson Ave., E. RUTHERFORD, N. J.
2724 Taylor St. DALLAS • 113 Spring St. N. W., ATLANTA
2730 San Pablo Ave., BERKELEY

If you write maker identify as IEN-11020

a MATERIAL to suit your requirements

Industrial fastener users have long known they can call on Lamson & Sessions for almost any fastener product.

But did you know that many Lamson products are available in brass, bronze and aluminum alloys, as well as steel?

Yes, Lamson's *complete line* means just that . . . even to a choice of materials.

So make it a point to check with Lamson for *all* fasteners in any material.

Lamson & Sessions
The LAMSON & SESSIONS Co.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND and KENT, OHIO • BIRMINGHAM • CHICAGO

If you write maker identify as IEN-11021

Presto . . . it's UP!

"WE SAVED 48 MAN-HOURS on the 90 man-hour job of steam-cleaning, rewiring and painting an overhead crane at our South San Francisco plant," says Fred Reibin, Plant Engineer, Enterprise Div., General Metals Corp.

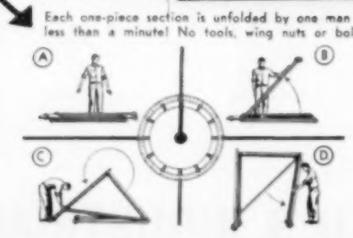
25 ft. "UP-RIGHT" SCAFFOLD-ON-WHEELS

Set up in only 5 minutes!

As if by magic, an aluminum alloy tower of any height desired is ready in minutes! Individual scaffold sections are set one on top of the other. Sections lock into place instantly. The tower rolls down aisles . . . straddles machinery.

HERE'S THE SECRET! . . . Patented ONE-PIECE SECTIONS

Each one-piece section is unfolded by one man in less than a minute! No tools, wing nuts or bolts.



WRITE FOR DESCRIPTIVE BULLETIN

"UP-RIGHT" SCAFFOLDS
DEPARTMENT 142 • 1013 PARDEE STREET • BERKELEY, CALIFORNIA
Factories: Berkeley, Calif. and Teterboro, N. J.
Offices in all principal cities

If you write maker identify as IEN - 11023

Special cold headed products

. . . nails · rivets · screws . . . made to order

. . . and to your specifications in any metal. Large raw material inventory for your convenience. Send drawing—advise quantity. Free catalog on request.

JOHN HASSALL INC.

132 Clay Street Brooklyn 22, New York

If you write maker identify as IEN - 11024

TRUCKS AND TRAILERS MOVE FASTER, EASIER ON NEW WHEELS BY

ELECTRIC

Modernize baggage-trucks, industrial trailers, floor trucks, mail carts and other portable equipment with new ELECTRIC wheels **for faster, easier handling.** There is an ELECTRIC wheel for every job.

Our 65 years of engineering "know-how" assures you of top performance from ELECTRIC equipment.

ELECTRIC wheels are furnished with or without roller bearings to fit your own axles or complete with axles—steel tires, molded-on-tires, or pneumatic tires. All types are available in a full range of sizes.

Our experienced engineers are always at your service.

WRITE FOR COMPLETE INFORMATION

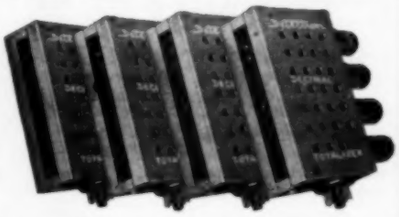
ELECTRIC WHEEL CO.

2814 SPRUCE · QUINCY, ILLINOIS

If you write maker identify as IEN - 11025

Detectron

DECIMAL TOTALIZERS



Better heat dissipation assures greater accuracy, stability and dependability of these units. They are provided with standard octal mounting plugs for easy adaptation to most equipment. Direct readings of astronomical proportions are obtainable by cascading several units together. Each unit uses four No. 5963 computer tubes and careful selection of critical parts insures maximum precision. Two models are available—

TU-9: 50,000 counts per second

TU-100: 100,000 counts per second

Ask for Descriptive Literature No. 75

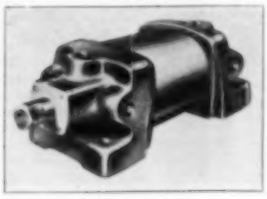
THE Detectron CO.

5631 CAHUENGA, NORTH HOLLYWOOD, CALIFORNIA

If you write maker identify as IEN - 11026

CYLINDER . . Pneumatic or hydraulic, pressures to 800 and to 2,000 pounds

Source: EXCEL MACHINE & MILL SUPPLY CO.
6817 Main St., Williamsville 21, N. Y.



Details are cataloged

Sizes range from 1½ to 12 in. in bore diameter with stroke to 48 in. in the company's new line of low and high pressure pneumatic and hydraulic cylinders. The line includes foot mounting with single or double end rod extension, flange mounting at the rear or front, clevis and trunnion mounting.

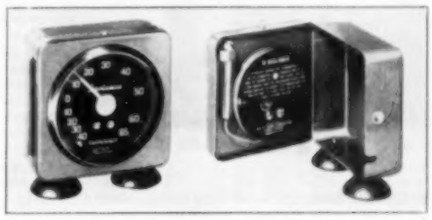
The barrel is made of steel tube with honed interior finish. The heads are cast semi-steel and are held in place by semi-steel flanges to which they are bolted. The flanges shoulder against snap rings that ride in grooves in the steel barrel. O-rings seal against the ends of the barrel.

The piston is made of aluminum and employs two molded asbestos cup gaskets for double action sealing. The piston hubs serve as parts of the cushion which can be set adjustably by screws operating needle valves in the cushion ports. The steel piston rod is ground and polished. It is sealed by molded asbestos packing and is carried on a bronze throat ring at the base of the packing box. A wiper at the outside face of the packing box keeps dirt out of the assembly. An oiler is built in to lubricate the cylinder wall.

If you write maker identify as IEN - 11027

THERMOMETER . . Service unit to read temperature in refrigerators

Source: MARSH INSTRUMENT CO.
3503 Howard St., Skokie, Ill.



Plastic face protects dial

Illustrated is new design of the company's Serviceman thermometer, previously described IEN-13001-46. The new instrument provides a range between minus 40 and plus 65 deg. F. It is equipped with a bourdon tube having permanent silver brazed connections and an internal stop that protects the instrument against excessive temperature. The Recalibrator has been shifted to the back of the plate on which the extension line is wound. It now can be reached without having to remove the retaining ring and glass.

The element on the end of the extension tube is placed in the refrigerated space and the door can be closed on the tube. Overall dimensions are 3½ by 1⅝ by 4 inches. Mounting is on two rubber suction feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11028

BONDED

NO NAILS CAN PROTRUDE

PREMIUM PALLET

NATIONAL

A NEW Pallet by the Nation's Largest Pallet Manufacturer

An important new advance in a BONDED pallet—kiln-dried before being glued to insure stronger, trouble-free service. No warping, no splitting, countersunk nails cannot protrude to damage bagged goods. Made to your order in all pallet styles, exclusively by NATIONAL PALLET CORPORATION.

Send for complete information and prices.

NATIONAL PALLET CORPORATION

14th FLOOR · OLIVER BLDG. · PITTSBURGH 22, PA.

Representatives in All Principal Cities

If you write maker identify as IEN - 11029

OTC

REPLACE 29 SIZES WITH THESE TWO

NEW GIANT ALLOY adjustable wrenches

THINNER-LIGHTER-STRONGER

Until now 29 wrenches have been needed to handle the jobs done by these two new alloy adjustable wrenches. They are THIN—to get at the work easily. Strong—designed for added strength at leverage points. Light—to make job servicing easy. Economical—saves time, tools and materials. Large jobs become simple ones.

Giant alloy wrench No. OA-24 is 24" long, ⅞" thick, weighs only 10 lbs. and adjusts to 13 standard sizes from 1⅞" to 2⅞". OA-16 is 15" long, 1⅛" thick, weighs only 22 lbs. and adjusts to 16 standard sizes from 2 15/16" to 4⅞".

ANOTHER EXAMPLE OF ENGINEERING THAT MAKES OTC TOOLS OUTSTANDING

OWATONNA TOOL CO.

371 CEDAR ST., OWATONNA, MINNESOTA

If you write maker identify as IEN - 11030

"See all" with... BOWSER

FLOW SIGHTS

Bowser Flow Sights let you "see all"—enable you to keep a watchful eye on your liquid handling operation. It pays to know the quality or the approximate quantity that's going through your lines.

Available in either single or double window types, in gravity or pressure models with or without electric control switch. Bowser Flow Sights are made in various metals for a variety of liquids.

Fig. 811 Flow Indicator — Fig. 54A Flow Sight — Fig. 816 Teleflo Indicator

BOWSER, INC.

1338 Creighton Ave., Fort Wayne 2, Indiana

Liquid Handling Specialists Since 1885

If you write maker identify as IEN - 11031

designed especially for industrial needs

HEIN-WERNER C-21

Push and Pull Jackit

Be smart! Use hydraulic pressure to do hundreds of jobs around the plant. A HEIN-WERNER C-21 JackKit gives you everything you need. It includes a service-proven 20 ton "Push and Pull" Hydraulic Jack and 15 carefully selected attachments packed in a sturdy wooden chest. Pushes 20 tons—pulls 13½ tons . . all direct . . with one ram. With it you can handle lifting, moving, bending, straightening or pressing jobs. The outfit is easily portable. Pump operates at any angle . . . in any position.

Available in models of 4, 10, and 20 tons capacity. See your industrial supply distributor or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION · WAUKESHA · WISCONSIN

If you write maker identify as IEN-11032

LANCO INDUSTRIAL TRAILERS

The Lanco 895 Industrial Trailer illustrated combines rugged construction with modern design and quality materials. Highly maneuverable, it has improved casters permitting high speed operation. An economical, efficient unit with a low original cost. Lanco standard or custom built trailers will give you efficient service — write today for details on units to meet your requirements.

LANSING CO. LANCO MATERIAL HANDLING EQUIPMENT — LANSING, MICHIGAN

If you write maker identify as IEN-11033

COME CLEAN!

Defense orders are coming to the clean plants because they can handle production efficiently. Be sure your plant operation is not handicapped by litter, dirt or other debris.

Send today for important Doyle Vac-It information. There's no obligation.

Model 114

Doyle VACUUM CLEANER CO.

2233 Stevens St., S. W. Grand Rapids 7, Mich.

If you write maker identify as IEN-11034

Femco COMMUNICATION

"We saved a man's life by stopping a trip quickly. He was being dragged by his clothing."

FOR MINES
FOR MILLS

Easy to Buy • Easy to Install • Easy to Use • Make Us Prove It

Femco TROLLEYPHONE

Uses existing wires and power supply to provide clear voice communication over loud speakers. Bulletin No. 25.

Femco AUDIOPHONE

Wherever wires can be laid or run you can have Femco Audiophone systems installed. Bulletin No. 26.

LOW COST • LOW MAINTENANCE

"YOUR VOICE OF NEWS"

FARMERS ENGINEERING & MANUFACTURING COMPANY
549 Brighton Ave., Pittsburgh 11, Pa.

If you write maker identify as IEN-11035

LOCOMOTIVE . . For yard duty, engine drive, hydraulic transmission

Source: BALDWIN-LIMA-HAMILTON CORP. Peoschall Post Office, Philadelphia 42, Pa.

Model SH-2190, a 35 ton unit

Diesel engine rating 225 hp. at 1,800 rpm. provides starting tractive effort of 21,000 lb. on 30 per cent adhesion in this new yard locomotive. Power is transmitted by a Twin Disc torque converter and clutch with a two-speed transmission and axle hung reverse gear for speeds to 10.6 and 28 mph. The torque converter is equipped with a throw out clutch and is mounted on the engine bell housing. It provides smooth and gradual pick up of a load and prevents vibration or shock load from being transmitted to the engine or into the driving mechanism.

The clutch and reverse transmission are air operated and electrically controlled. A battery and charging generator for starting duty and for lighting and Westinghouse Air Brake equipment are standard in the assembly. The locomotive is available for track gages measuring 30 to 66 inches. It is 17½ ft. in overall length. Wheel base measures 6½ feet.

If you write maker identify as IEN-11036

DUST COLLECTING . . Orlon fabrics for use in dry separation equipment

Source: FILTRATION ENGINEERS INC. 153-57 Oraton St., Newark 4, N. J.

Ready to fabricate

Feon 425 and Feon 426 designate two new Orlon fiber fabrics featuring short-staple highly-napped construction for air permeability combined with ability to retain a range of dust-particle sizes. Both fabrics are available as yard goods or can be fabricated by the company into bags or tubes to fit any type of dust-collecting equipment.

Characteristics of the fabrics include ability to stand up in contact with corrosive materials at temperatures to 300 deg. F., to resist chemical attack by strong mineral acids, chlorine, oxidizing chemicals, solvents, oils, weak alkalis.

If you write maker identify as IEN-11037

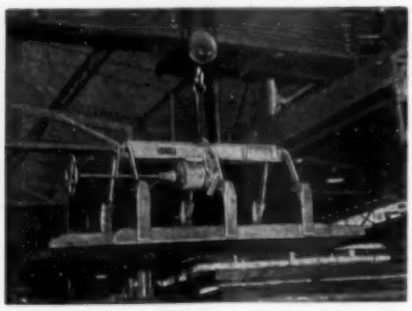
BUILDINGS . . Plastic sheet for windows is the subject of bulletin on how to select and install it

Rohm & Haas Co.
220-24 Washington Square, Philadelphia 6, Pa.

Twelve detail drawings in new 16-page Booklet PL-23 show how to install the company's Plexiglas shatterproof plastic in wood and metal sash. Accompanying text describes properties of the plastic sheet, recommended thickness by type of service, installation allowances, methods of cleaning.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11038



Save Time . . . Save Sheets

Handle loose or bundled sheets with one of these C-F Lifters and you save TIME and Sheets, because C-F Lifters, under one man and control, can handle more sheets per load safer, faster and more economically. Tong action grips load tightly, yet design features like wide bearing surface give full protection to stock edges. End control of C-F Lifters permits closer stacking piles — resulting in more efficient use of storage facilities. C-F Lifters are available in capacities from 2 to 60 tons or larger, in standard or semi-special designs.

WRITE FOR THE BULLETIN "C-F LIFTERS"

CULLEN-FRIESTEDT CO., CHICAGO 23, ILL.

CULLEN-FRIESTEDT CO., 1318 So. Kilbourn Ave., Chicago 23, Illinois

If you write maker identify as IEN-11039

Goodbye Elbow Grease!

Use HAND-I-HACK® Portable POWER HACK SAW

TAKE IT EASY—let electricity do your muscle work! Hand-I-Hack eliminates the sweat and fatigue of hack sawing. Plugs into any wall or light socket. Truly portable — can be carried anywhere with one hand. Has swivel vise — operates in any position: horizontally, vertically, at an angle, even upside down. Maximum capacity: 3" x 3" square cut. Uses lower cost standard 10" hand blades — will cut solid bar stock and thin wall tubing, pipe, conduit, cable, rolled forms, etc.

Cutting small diameter brass tubing, using wood block false jaws.

Making a square cut on solid 3" steel bar

• Write for catalog and name of dealer

*5 H. Reg. 195 Pat Off.

Lipe-ROLLWAY CORPORATION
Manufacturers of Rollwaytite Clutches and Machine Tools
812 Emerson Ave., Syracuse 1, N. Y.

If you write maker identify as IEN-11040

Read the facts about AIRCO'S NEW No. 20 RADIAGRAPH

. . . So you'll know about the first gas-cutting machine designed to carry Aircomatic,® Heliwelding, and other *fabrication* equipment . . .

. . . So you'll be among the first to know how the No. 20 Radiagraph cuts circles, arcs, any length straight lines, simultaneous parallel line — with single or double bevels, and irregular shapes . . .

. . . So you'll know how this 57-lb. one-man portable can be put to work for you, just write us today for your copy of the No. 20 Radiagraph Catalog. Address: Advertising Department, Air Reduction Sales Company, 60 East 42nd St., New York 17, N. Y.

AT THE FRONTIERS OF PROGRESS YOU'LL FIND

AIR REDUCTION

AIRCO®

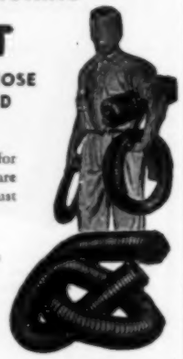
AIR REDUCTION SALES COMPANY • AIR REDUCTION MAGNOLIA COMPANY
AIR REDUCTION PACIFIC COMPANY
REPRESENTED INTERNATIONALLY BY AIRCO COMPANY INTERNATIONAL
Divisions of Air Reduction Company, Incorporated
Dealers and Offices in Principal Cities

If you write maker identify as IEN-11041

FOR VENTILATION FUME AND DUST CONTROL AIR CONDITIONING

FLEXAUST

SPIRAL-REINFORCED HOSE LIGHT, STRONG AND VERY FLEXIBLE



Flexaust is of proved suitability for a wide variety of suction and pressure uses in ventilation, fume and dust control, air conditioning.

EXTREMELY EASY TO INSTALL — EFFICIENT AND ECONOMICAL IN USE

SIZES: 1¼" to 28" dia.

Various Flexaust types, accessories, and other hose types also available:

BLOFLEX
Non-reinforced
Collapsible hose

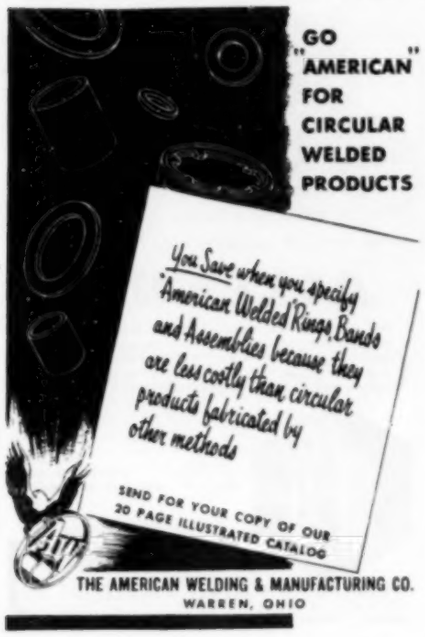
PORTVENT
Ring-reinforced
retractable hose

Write for full descriptive data and prices

AMERICAN VENTILATING HOSE CO.

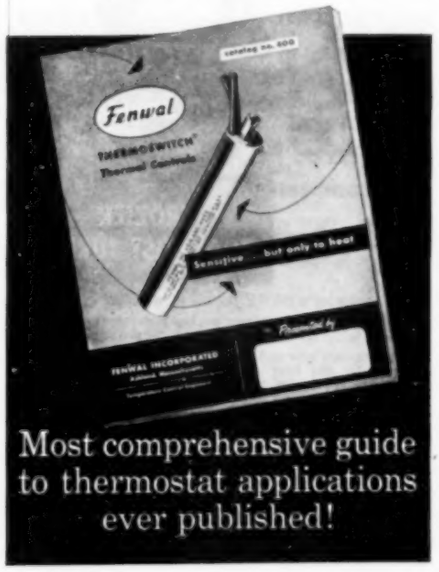
Dept. IE-10, 100 Park Ave., New York 17, N. Y.
Plant: Amesbury, Mass.

If you write maker identify as IEN-11042



THE AMERICAN WELDING & MANUFACTURING CO.
WARREN, OHIO

If you write maker identify as IEN-11043



Most comprehensive guide to thermostat applications ever published!

Get your copy of unusual 52-page catalog today!

Find out *now* how you can get closer temperature control at lower cost. Illustrated, 52-page catalog shows you:

WHY Fenwal THERMOSWITCH® thermostats respond at the preset temperature you want. (between −100°F and +1500°F) within the desired operating differential (can approach 0.1°F in a well-designed system).

HOW to choose the right THERMOSWITCH unit from the ten standard types for controlling temperatures of solids, liquids or gases.

WHERE to apply THERMOSWITCH controls in relation to heating elements in ovens, incubators, stills, dryers and other equipment.

WHEN special modifications may be added to standard THERMOSWITCH units to fit specific conditions.

HOW MUCH standard THERMOSWITCH thermostats and special modifications cost. You'll be surprised at the low list prices.

SEND FOR YOUR FREE COPY of this Fenwal catalog (No. 400) today. Fenwal, Incorporated, 710 Pleasant St., Ashland, Mass.

Fenwal

THERMOSWITCH®

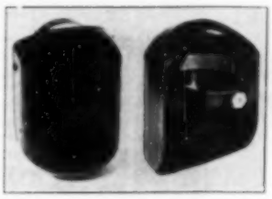
Electric Temperature Control and Detection Devices

SENSITIVE... *but only to heat*

If you write maker identify as IEN-11045

PROTECTING . . Fiberglas helmet for arc welders, hinges on head band

Source: BOYER-CAMPBELL CO.
6538 St. Antoine St., Detroit 2, Mich.



Protects comfortably

Strength, light weight, freedom from warping and resistance to attack by moisture are characteristics of this new arc welder's helmet. It can be cleaned with soap and water and sterilized. It mounts an insulating glass holder made of Bakelite plastic.

The helmet can be hinged upward when it is not required in position in front of the welder's face. It will come to rest in any of four positions and hold there until the operator moves it again. The flexible plastic headband conforms to any head contour and will not absorb moisture.

If you write maker identify as IEN-11046

ELECTRIC DUCT . . Enclosed bus bars for power distribution to 4,000 amperes

Source: TRUMBULL ELECTRIC DEPARTMENT
39-43 Woodford Ave., Dept. M-1, Plainville, Conn.

Company offers engineering help

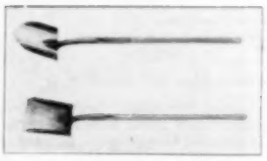
Aluminum is now being employed to supplement copper construction for the bus bars in the company's Flex-A-Power feeder and plug-in electric power distribution duct, previously described IEN-5454-42. The company will continue to supply the duct equipped with copper bus bars in section weights totally 30 to 70 per cent more than those with the new aluminum construction. The aluminum provides excellent transmission efficiency since its resistance to flow of ac. is only slightly higher than that for dc. The company also is able to assure continuing availability of the aluminum.

Ratings range from 600 to 4,000 amp. at 600 volts or less for 2, 3, 4-pole installations and for three-phase four-wire equipment. A companion design, Type FVK, is available in ratings of 225 to 800 amp. at 600 volts or less.

If you write maker identify as IEN-11047

HANDLING . . Steel blade shovel, 3½ lb., pointed and square designs

Source: WOOD SHOVEL & TOOL CO.
903 S. Roosevelt Ave., Piqua, Ohio



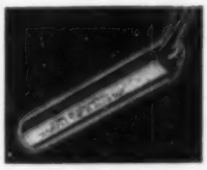
For heavy duty service

Jet-Lite trade names two new long handle steel blade shovels in which the heat treated blades are reinforced with a backbone plate seam welded in place and with stiffening shoulders. Handles are northern white ash.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

If you write maker identify as IEN-11048

"MIRROR" INSIDE STAINLESS STEEL TUBE ENDS NEED FOR MACHINING OPERATION



SMOOTH SURFACE inside a tube, free from pits, scratches, marks and mars was the paramount need of a Superior customer. Before they talked the problem over with us a machining operation was required on each part. Superior was able to supply tubing to meet their needs with a bright, clean, smooth, mirror-like inside finish to eliminate the extra operation. At the same time physicals were held low to prevent stress cracking following soldering.

YOU, TOO may be using fine small tubing and have a fabrication, application or assembly problem. Superior is ready, willing and able to help you toward the solution. Check your needs against Superior's production of tubing in all analyses from .010" to ⅝" O.D. and in certain analyses (.035" max. wall) up to 1⅜" O.D. For information write today.

SUPERIOR TUBE COMPANY
2016 Germantown Avenue
Norristown, Pennsylvania

If you write maker identify as IEN-11049

You'll find CASH-ACME Automatic Valves on the job in the giant meat industry. The sausage stuffer shown at right is just one application of many where a CASH-ACME Valve is giving dependable pressure control. If you have the problem of finding a lifetime valve that will turn in consistent performance year after year on the products you manufacture, write today. We can show you the installation that will do the job.

Write for case histories showing the successful application of CASH-ACME Automatic Valves in dozens of industries everywhere.

CASH ACME SILENT SENTINEL Automatic Valves

A. W. CASH VALVE MANUFACTURING CORP.
6612 E. Wabash Avenue
Decatur, Illinois

If you write maker identify as IEN-11050

TRAFFIC NEVER STOPS

when you repair your floors with

PERMA*Mix*

FOR PATCHING IN TEMPERATURES FROM 10° TO 100° ABOVE ZERO

3 EASY STEPS TO FOLLOW:

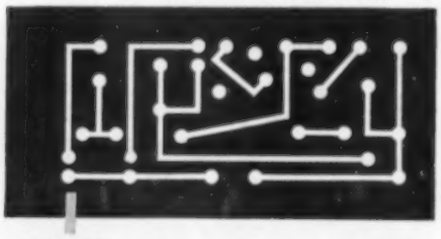
- **Clean area to be patched. Apply primer supplied in drum. Prime about 2" outside of patch.**
- **Fill area with PERMAMIX, just as it comes from the package, allowing sufficient material for slight crown.**
- **Tamp solidly in place and resume traffic immediately.**

No mixing, waiting or production delays when you repair your floors the easy, fast PERMAMIX way. Comes in handy, durable 50 lb. net weight drums.

ALSO AVAILABLE! The new PERMAMIX-C for patching in low temperatures from 5° above zero to -30° below...using the same 3 easy steps.

PERMAMIX CORPORATION
230 N. LaSalle St. • Chicago 1, Illinois

If you write maker identify as IEN-11051



LOOK! No Wires!

If your product contains an electrical circuit it may pay you well to investigate the advantages of "printing" the circuit in copper foil on Synthane laminated plastics. This process is fast and relatively inexpensive, cuts down wiring errors, permits quick changes in circuits without the need for expensive retraining of assembly workers. Get more information about copper-foil Synthane and its place in electronics. Use the handy coupon today.

SYNTHANE

Manufacturers of laminated plastics

SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
South River Road, Oaks, Pa.

Gentlemen:

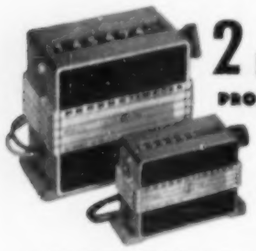
Please send me information on Synthane laminated plastics and its use in "printed" circuits.

Name _____

Address _____

City _____ Zone ____ State _____

If you write maker identify as IEN - 11052



2 ELECTRIC PRODUCTIMETERS

"CS" and "Y" ELECTRIC PRODUCTIMETERS The answer to all electric counting requirements

Two Companion Counters . . . Two Sizes . . . Hi-Speed . . . Accurate . . . Long Life . . . Totally Enclosed

Speeds of 1000 counts per minute. Both counters give maximum readability. Design fits all mounting conditions . . . panel mounting or base mounting. Hardened steel working parts for long life and dependability.

New type case for compactness, rigidity, and protection against dust and moisture conditions. Operate accurately over wide current fluctuations.

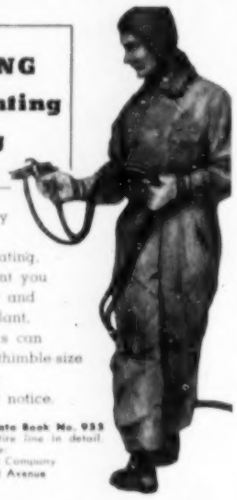
Write for "New Electric" Bulletin

DURANT MANUFACTURING CO.
1930 N. Buffum St. Milwaukee 1, Wis.
130 Orange St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

If you write maker identify as IEN - 11053

EVERYTHING for spray painting and coating



Whether you want to spray a satin furniture finish or a coarse underbody coating, Binks makes the equipment you need to apply it smoothly and evenly. Wherever your plant, whatever your need, Binks can supply everything from thimble-size fittings to giant automatic finishing systems on short notice.

Send for Catalog-Data Book No. 933 It describes the entire line in detail. No obligation. Write: Binks Manufacturing Company 3120-34 West Carroll Avenue Chicago 12, Illinois

Binks EVERYTHING FOR SPRAY PAINTING

If you write maker identify as IEN - 11054

THE HP-600 ARBOR PRESS

For EFFICIENCY and ECONOMY

For light high-speed production and assembly presswork. Provides 800 lbs. of sensitive pressure and sensitive control. Frame, table and table standard are close grained iron castings, well braced and accurately machined. Ram and pinion are special steel. Three slots for arbor work—¼", ½" and ¾" wide. The ideal "Pressure Tool" for model makers, jewelers, instrument makers, radio men, research laboratories, schools, light production work, etc.

Straightening attachment available at $4.95.

$14.00 POSTPAID U.S.A.

Write for further information.

H. D. HERDER TOOL SPECIALTIES 1734 E. MICHIGAN AVE. KALAMAZOO, MICH.

If you write maker identify as IEN - 11055

BEARING . . Floating nylon liner in press fit sleeve, ¼ to 1¼ in.

Source: THOMSON INDUSTRIES INC. 1027-31 Plandome Road, Manhasset, N. Y.

Note grooving

Thinwall Nylined designates a new design of the company's nylon lined sleeve bearing, previously described IEN-1898-51. The new unit consists of a thin formed steel outer sleeve or shell and a free floating liner of DuPont FM10001 nylon. Ten sizes range from ¾ to 1¼ in. in bore diameter.

Nylon is characterized by its ability to present a tough glazed surface having a low coefficient of friction with little or no lubrication. It will stand up in temperatures to 250 deg. F. It is not subject to attack by most industrial chemicals. It dampens mechanical vibration to result in smooth quiet operation.

The split liner provides a spiral compensating gap that provides for dimensional changes due to expansion and contraction and also serves to distribute lubricant, when it is employed and introduced through a central hole in the steel sleeve. The liner can be closed in and withdrawn by hand.

If you write maker identify as IEN - 11056

FURNITURE . . Folding table, caster mounted with removable benches

Source: SEATING INC. 6043-47 Pillsbury Ave., Minneapolis 19, Minn.

Seats 16 people

Roll-Fold Model B is a new folding table measuring 12 ft. in length and providing 52 sq. ft. of surface area standing 27 in. above the floor. The top is made of ⅝-in. fir plywood with a plastic laminated bonded surface. It also is available in pressed wood. The bench seats are laminated fir in natural finish. They can be detached.

Overall width measures 52 inches. The casters are 4-in. rubber tired design. The table top sections will hold in any intermediate position between folded and unfolded positions. No latches are required. There is no danger of pinching.

If you write maker identify as IEN - 11057

CASTINGS . . Picture book shows uses of Meehanite alloy iron castings in many industries

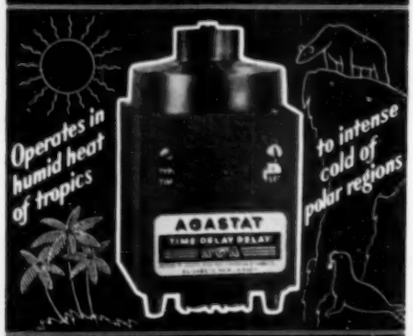
Meehanite Metal Corp. 802 Pershing Square Bldg., New Rochelle, N. Y.

Title of new 32-page booklet, "Meehanite Castings Serve All Industry", also applies to a new sound slide film on the same subject. The booklet contains 43 application pictures of the company's alloy-iron castings with descriptive notes on the reasons for its use. The film has 43 frames, is accompanied by narration. Running time is 30 minutes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11058

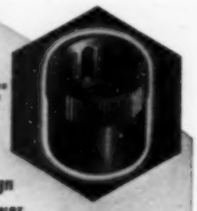
AGASTAT TRADE MARK **TIME DELAY RELAY**



Small – Compact – Few moving parts
Easily mounted – Operates in any position
Time delay range, 1 second to 5 or more minutes

A'G'A DIVISION OF ELASTIC STOP NUT CORPORATION OF AMERICA 1027 NEWARK AVENUE • ELIZABETH 3 • NEW JERSEY

If you write maker identify as IEN - 11059



"Tapped holes by the bushel" for use with Cap Screws

- Eliminate re-threading
- For more compact design
- For greater holding power
- For faster, easier assembly

ALLENUTS

The Allenut is the counterpart of Allen Cap Screws in precision threading and dimensional accuracy. One end is tapped to a class 3 fit. The other takes a standard hex key. Permits flush surfaces, and is self anchoring in non-hardened metals.

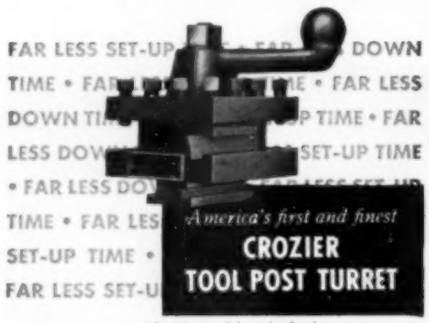
Standard in nut sizes from #2 to 1", class three fit.

One hand wrenching of screw only produces weld-like set-ups.

SOLD ONLY THROUGH LEADING INDUSTRIAL DISTRIBUTORS

ALLEN MANUFACTURING COMPANY Hartford 2, Connecticut, U. S. A.

If you write maker identify as IEN - 11060



now with 12 position indexing

12 position indexing now makes possible the alignment with work at any thirty degree increment.

This is only one of the outstanding features developed by the first and largest manufacturer of turrets for small lathes. Other features include built-in cut-off tool and holder and positive rapid indexing. All wearing parts are hardened and precision fit. They are available in three sizes.

Switch to Crozier Tool Post Turrets today. Save as much as 75% set-up and down time in lathe operations. In Crozier, you have America's precision-built tool post turret. Write for catalog.

CROZIER MACHINE TOOL CO. Dept. IEN-10 *Hawthorne, California*

If you write maker identify as IEN - 11061

New! **FIELDEN TEKTOR**

—answers level control problems

NEW, SIMPLE, accurate electronic instrument. Answers many difficult level control problems involving high pressure, temperature or extremely corrosive conditions . . . for liquids, granular or free-flowing solids, conductors or non-conductors. Capacity actuated, high or low level, fixed point control or alarm system. Rod or disk electrode, insulated or bare metal. Low cost. For information, write Department TN-101.

Fielden INSTRUMENT DIVISION
ROBERTSHAW FULTON CONTROLS COMPANY
2920 North 4th Street • Philadelphia 33, Pennsylvania

If you write maker identify as IEN-11062

Get your copy of this NEW BULLETIN!

This important new Bulletin WH-851 explains in detail the causes and damaging effects of costly Water Hammer—and how it can easily be controlled with Williams-Hager Silent Check Valves. Learn how Water Hammer can be quickly and inexpensively controlled *in your piping system*—send for your copy of this new bulletin today.

THE WILLIAMS GAUGE COMPANY
1620-22-24 Pennsylvania Ave. • Pittsburgh 33, Pa.

If you write maker identify as IEN-11063

disappear quickly, completely with low cost, disposable KIMWIPES*!

Now—a *safe*, clean, absorbent tissue made especially for laboratory or plant! New Kimwipes* industrial tissues clean faster, easier, better—do every job from wiping ink to precision polishing without scratching, linting or disintegrating.

You'll find dozens of uses for Kimwipes—end the dangers of dirty, scratchy cloths—and completely eliminate unnecessary laundering. Each tissue is a "man's handful"; strong yet amazingly absorbent, and completely non-abrasive. So inexpensive, a fresh, clean tissue can be used for each application—then thrown away! Kimwipes are recommended especially for wiping safety goggles and face shields after applying liquid cleaner, wiping up machine oil or dangerous chemicals.

Order a supply today from your distributor. Two tissue sizes—15" x 18" and 5" x 9". For complete information, write to Dept. DD-10, Kimberly-Clark Corporation, Neenah, Wisconsin.

GRIT-FREE! Kimwipes keep safety goggles and shields clean without scratching, linting or "dusting."

KIMWIPES INDUSTRIAL WIPING TISSUES

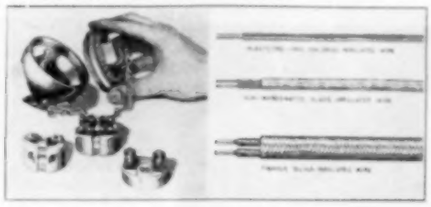
A Product of **Kimberly-Clark**

*T.M. REG. U.S. PAT. OFF. & CAN.

If you write maker identify as IEN-11065

PYROMETER . . Accessory units for use in high and low temperatures

Source: MINNEAPOLIS-HONEYWELL REGULATOR CO.
4456 Wayne Ave., Philadelphia 44, Pa.



Each available to specification

New accessories, following those previously described IEN-7251-51, in the company's line of pyrometer equipment, include a new thermocouple head that provides protection for the terminal connections and for high speed resistance thermometer bulbs. The head is made of zinc plated cast iron and is coated with zinc enamel. Threads are on the inside of the base. The outside of the cover is zinc plated and coated with aluminum enamel, after the threads are machined, to prevent corrosion. Hexagon protecting tube and conduit outlets fit standard open end wrenches. Single and duplex thermocouple terminal blocks are molded heat resistant refractory material.

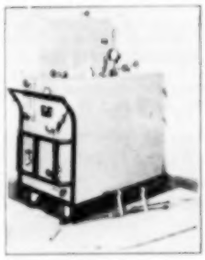
Also included are three new wires made of plasticized vinyl chloride for ambient temperatures between minus 20 and plus 225 deg. F., of non-impregnated glass for ambient temperature to 1,200 deg. F. and of fibrous silica for ambient temperatures to 2,000 deg. F. The vinyl chloride insulated wires are made by covering each of two conductors with multiple coats of color coded baked insulation and then bonding the two side by side with plastic cement.

Glass braid covering is provided for each conductor in the non-impregnated thermocouple wire. The two conductors are then placed side by side and covered with an overall layer of braided glass insulation. This wire is not color coded.

If you write maker identify as IEN-11066

CLEANING . . Steam spray machine employs electrically heated boiler

Source: LIVINGSTONE ENGINEERING CO.
102 Grove St., Worcester 5, Mass.



Cleans selectively

Dry steam is delivered to a hand held lance at pressure to 200 lb. along with a concentrated solution of solvent or detergent from a tank in this new design of the Type JC-30 machine, previously described IEN-11667-50. The steam and cleaning solution will remove encrusted dirt and grease from machine and building surfaces without disturbing workers nearby and without leaving any pools of water.

Equipment includes the electrically heated ASME Code boiler with a pressure tank, controls, hose lines and the valve equipped lance. Overall width is 20 in. for movement in narrow aisles.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11067

WITH A COLUMBIA

TONG TEST AMMETER

There is no other instrument like a Tong Test—it measures both A.C. and D.C. Readings are made instantly and accurately.

These outstanding features are yours when you use a Tong Test Ammeter:

- No breaking of circuit
- Operated with one hand
- Safe and convenient to operate
- Light weight—low price
- Scale ranges up to 1000 Amperes
- Voltage attachment available
- Five types to accommodate cables up to 3⅞", bus bars up to 4½" x ½"

Write for Tong Test Bulletin IQ-400

COLUMBIA ELECTRIC MFG. CO.
4519 Hamilton Ave. Cleveland 14, Ohio

If you write maker identify as IEN-11068

. . . tells the whole story about KRITZER—THE COMPLETE BASEBOARD HEATING LINE. Models available, assembly methods, typical uses, plan drawings, new features all are described and illustrated in this attractively printed 16 page book. Ask for Catalog No. B752.

Write For Your Copy Today
KRITZER RADIANT COILS, INC.
2813 W. Lawrence Ave., Chicago 25, Ill.

If it's Kritzer, it's right, Sir!!

If you write maker identify as IEN-11069

NEW Empco JACK Gives you Quick Accurate Machine Leveling and it ABSORBS VIBRATION

New type JACK greatly reduces noise and vibration with VI-SORB Mounting Pads.

VI-SORB Mounting Pads

The combination of a new Empco Jack and VI-SORB is a long step forward in setting and keeping power-driven equipment level while combating the destructive forces of vibration.

Empco Jacks are self-aligning to give you the quickest, easiest, most accurate machine leveling ever known.

For precise machine leveling and maintenance you will save time and money if you use Empco Jacks with VI-SORB Mounting Pads. Write for complete information and prices today!

Remember: A level machine—kept on the level—does better work and lasts longer.

EMPCO PRODUCT

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

If you write maker identify as IEN-11070

Here's LOW COST OVERLOAD PROTECTION!

CONSIDERING THE OVERALL ECONOMY, *it's* hard to beat the *Thermalite* overload indicator, introduced by Allis-Chalmers. Low in original price and costing next to nothing to maintain, it can save you hundreds of man-hours on extensive surveys. It'll help eliminate service interruptions and transformer burnouts.

You'll find it makes overload detection easy, too. You can spot the warning light right from your service truck.

Now available on distribution transformers 100 kva and smaller, 15 kv and below. For more information see your A-C district office. Or write Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3848

Thermalite is an Allis-Chalmers trademark.

ALLIS-CHALMERS A-C

If you write maker identify as **IEN - 11071**

Reduce Maintenance of Soldering Iron Tips

Save money on soldering iron maintenance! No filing of tips needed—G-E Ironclad copper tips have a layer of iron on the working surface which *retards* pitting and corrosion. Both tips above were used 363.5 hours at 250 C. Plain copper tip (left) pitted but Ironclad tip retained its original form, ready for many more hours of use—and still no filing will be needed.

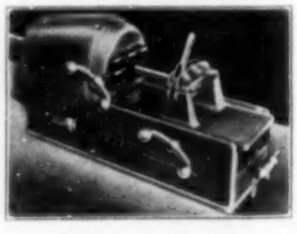
Write For Free New Bulletin GEA-4519C to Section 720-95, *General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

If you write maker identify as **IEN - 11074**

THREADING . . Motor driven machine, with power chuck for pipe to 2 inches

Source: GAINES-COLLINS CO.
5472-76 Alhambra, Dept. 25, Los Angeles 32, Calif.



Quick opening die heads

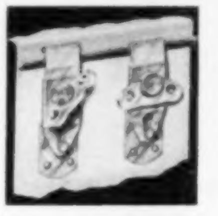
The operator of this new Quijada Chief pipe and bolt threading machine turns a switch at the front of the housing to advance or retract four jaws at the front and rear of the motor driven head to grip and center pipe or bar stock that is to be threaded. A die is positioned in the lever operated holder on the machine's slide and is advanced to the work by turning a crank at the front of the housing.

The pipe is cut off by turning a second crank operating a wheel type cutter on the face of the machine head. Reaming takes place while the threads are being cut by automatic action of a flat blade reamer. The machine operates on 115-volt ac. or dc. It is equipped with a grease gun, pull out chip pan and six die heads. Its range is for pipe from ⅛ to 2 in. and bolts from ¼ to 1¼ inches. Assembly weight is 160 pounds.

If you write maker identify as **IEN - 11078**

Have you a similar fastening problem?

File: Simmons LINK-LOCK



When the armed forces needed a positive, high-strength fastening device for instrument housings, transit cases, and storage boxes, Simmons developed LINK-LOCK. This brand-new device works with fingertip pressure, furnishes up to 450-lb. pull-down pressure. Open or closed, it always lies perfectly flat.

LINK-LOCK may be the answer to your fastening problem. If your design involves heavy fastening pressures, watertight sealing, high strength, resistance to impact, write for LINK-LOCK DATA SHEET.

SIMMONS FASTENER CORPORATION, 1758 No. Broadway, Albany 1, New York

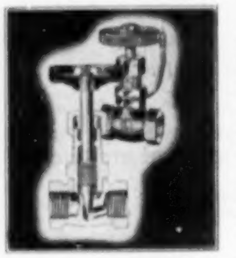
Simmons — LINK-LOCK, QUICK-LOCK, SPRING-LOCK, ROTO-LOCK

FASTENERS WITH USES UNLIMITED

If you write maker identify as **IEN - 11075**

VALVE . . Bronze needle design, globe and angle patterns, ⅛ to 1 inch

Source: LUNKENHEIMER CO
Beekman St., Cincinnati 14, Ohio



For flow adjustment

Figure 906 in globe design, 907 for angle design, is shown in the section view of this new bronze body needle valve. It is available in sizes from ⅛ to 1 inch. It is equipped with the company's new Non-Slip hand wheel for precision control.

Figure 1565, globe, 1566, angle, designates a companion unit in the same needle design but with a graduated notched hand wheel for positioning in connection with a spring clip and combination pointer. This permits returning the valve to predetermined positions for repeat operation. This valve is available in ¼, ⅜ and ½-in. sizes in globe patterns and in ¼ and ⅜-in. sizes in angle pattern.

If you write maker identify as **IEN - 11072**

WW KAPTRODE* SPOT WELDING ELECTRODES

The New Kaptrode Electrode with Kaptrode Shanks Adapter: This small cap type electrode inserts into semi-permanent shank, forming an assembly to fit any standard Morse taper holder of corresponding taper size.

• COPPER SAVINGS—75% and more with wide-spread, careful use. • ELECTRODE COST SAVINGS—20% and up in ordinary shop operations; careful operators save as high as 50%. • INVENTORY SAVINGS—30% and up: only small supply of shanks needed; electrodes are interchangeable; one shank outlasts ten or more tips. • TIME SAVINGS—electrodes quickly, easily inserted and removed.

For the toughest electrode-consuming job in your plant, order a supply of WW-Kaptrode Electrodes NOW!

WEIGER-WEED **W·W**

Weiger-Weed & Company, Division of Jenstee! Metallurgical Corporation 11644 Cloverdale Avenue, Detroit 4, Michigan

If you write maker identify as **IEN - 11076**

STEELS . . Booklet on Type 430 stainless makes suggestions on how to fabricate and passivate it

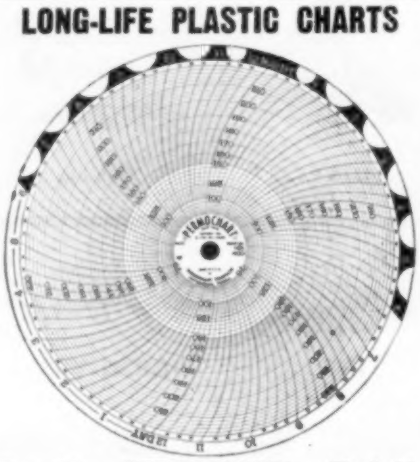
Sharon Steel Corp.
49 S. Irvine Ave., Sharon, Pa.

How and where to use Type-430 stainless steel is told by new 12-page booklet, "Sharon 430". Analysis, physical properties, types of finish are covered. Fabrication instructions are detailed for drawing, soldering, shearing, annealing, welding. Precautions are noted such as passivating.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as **IEN - 11079**

LONG-LIFE PLASTIC CHARTS



Reusable — PERMOCHART* — Washable

You can use WASHABLE laminated plastic "PERMOCHARTS"* on all your circular recording and controlling instruments. Convenient to use, they'll save you time and expense.

• Guaranteed serviceable life—TWO YEARS. • Cost per day only $ .00205 to $ .00342. • Available for any instrument using circular charts. Made of 100% "Vinylite" plastic laminated construction.

Send for sample of PERMOCHART Construction

*Reg.

ALLEGHENY PLASTICS, INC.
390 CHESTNUT ROAD SEWICKLEY, PA.

If you write maker identify as **IEN - 11073**

SPROUT WALDRON — **PULLEYS**

SOLID FACE and *BELT SAVER*

In handling rough, abrasive materials, S/W exclusive Belt Saver Pulleys are lengthening belt life as much as 400%. Equally well recognized is the S/W Blue Face Pulley Line in standard and made-to-order types and sizes. Write today for literature.

Sprout-Waldron & Co., Inc.,
5 Logan Street, Muncy, Penna.

Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

SPROUT-WALDRON

If you write maker identify as **IEN - 11077**

SENSITIVE, PRECISE PRESSURE-VACUUM CONTROLS

TYPE G9

The pressure vacuum control illustrated is an accurate, highly sensitive, precision-built unit. It may be had with an internal or external, calibrated or uncalibrated adjustment. It is watertight unless the adjustment is external.

It is designed for applications requiring constant repeatability of any on-off differential between .2" and 10" w.c. For full details send for bulletin #5-1.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

If you write maker identify as **IEN - 11080**

MODERN AS TOMORROW!

This is the EXECUTIVE by LINEMASTER®
America's Foot Switch Leader

PRICE ONLY $6.50 list less discount

Size 4" x 4⅝" x 1⅛". Weight 14 ounces

The Executive incorporates two switches in one, with selective circuits and guaranteed mechanical interlock. Its sleek, low-to-the-floor design enables easy and comfortable on-center pivot action; only one circuit can be operated at one time — preventing accidental tripping of two circuits.

It's the Electrician's dream — only one screw to remove and the switch is ready for wiring.

Engineers will want to incorporate the Executive by Linemaster into their plans when designing their modern machines.

Rating (each interior): Single Pole — Double Throw 20A @ 125V — 15A @ 250V

LINEMASTER SWITCH CORP.
DEPT. B, P. O. BOX 312 PUTNAM, CONN.

If you write maker identify as IEN - 11081

Engineered Air Regulation

Tiny in size — mighty in capacity — superb in performance

KENDALL MIDGET MODEL 30
Precision Air Pressure Regulator

Ever see an air pressure regulator...

- In which all undesirable seat forces are completely balanced out by unique deep convolution compensating diaphragms?
- Which will pass more than 35 SCFM from 90 PSIG to 10 PSIG, as an example, and yet measures only 1 11/16" x 2 1/4" x 4 1/2" high?
- Which will hold regulated pressure on dead end service within 0.05 PSI while upstream varies as much as 25 PSI?

Carefully designed and as carefully constructed of quality materials. Attention to detail reflected in use of anodized die cast aluminum housing; roll thread adjusting screw in bronze bushing for easy and accurate adjustment. Arranged for pipe, panel, bottom or side mounting.

AVAILABLE ½" or ¾" N. P. T.
RANGES 0-10, 30, 60, 100 PSIG
Send for BULLETIN 9523

KENDALL CONTROLS CORPORATION
144 MOODY STREET WALTHAM 54, MASS.

If you write maker identify as IEN - 11082

WHY is ELECTRIC FEEDRAIL® so widely used for powering hoists and cranes?

The basic reason is clear-cut. With its enclosed conductors, ELECTRIC FEEDRAIL eliminates the hazards of exposed wiring and reduces maintenance. In other words, from the power standpoint, ELECTRIC FEEDRAIL makes hoist and crane operation, *as near 100% safe as it can be* for both personnel and equipment. It's trouble-free and a real money saver.

The ELECTRIC FEEDRAIL system, with its standard straight, curved and transfer track sections, is readily "tailored to fit" practically any crane and hoist installation. It's the safe, convenient, adaptable system for both new and existing installations. Full engineering cooperation is always at your service — without obligation.

GET THE WHOLE FEEDRAIL STORY IN CATALOG No. 25

This fully illustrated 60-page catalog tells you all about the modern ELECTRIC FEEDRAIL system of plant electrification, including information on how to plan an installation and prepare specifications. Write for a copy today.

Sold by leading electrical distributors

52-34

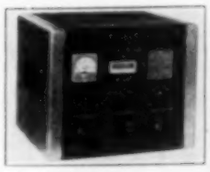
Never Excuse Obsolete
ELECTRIC FEEDRAIL
FEEDRAIL CORPORATION
125 BARCLAY STREET · NEW YORK 7, N. Y.

SPECIALLY QUALIFIED REPRESENTATIVES IN PRINCIPAL CITIES

If you write maker identify as IEN - 11084

COUNTING .. Electronic scaler for use in counting radioactivity

Source: TRACERLAB INC.
130-A High St., Boston 10, Mass.



For laboratories

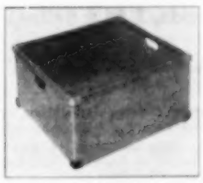
Type SC-19 Utility is a new electronic counter with a scale of 256, a wide range preset count selection and a high voltage power supply for Geiger tubes. The instrument employs 8 electronic scales of 2 for the 256 factor followed by a mechanical register. A selector switch permits choice of four scaling factors of 32, 64, 128 and 256. The count total is obtained by multiplying the register reading by the selected factor and by adding the values on the neon indicator lights.

Resolving time is 10 microseconds. Maximum counting rate is 1,000 cpm. on the register. Counting rates to 60,000 cpm. result in approximately 1 per cent coincidence loss. Predetermined counts can be selected and arranged between 320 and 256,000 by means of a count switch that will stop the register at 10, 100 or 1,000.

If you write maker identify as IEN - 11085

HANDLING .. Fiber tote box in specified sizes, can be stacked

Source: HARNEL FIBRE BOX CO.
348 Thomas St., Grand Rapids 3, Mich.



Non-metallic, strong

Stak Box has been recently improved in the company's line of vulcanized fiber tote boxes. The new Model 105-S includes a steel clad top rim, ¾-in. hardwood runners, rolled edge hand holds and bottom corner reinforcements. The material is not subject to attack by oils, acids, chemicals. Load capacity is several hundred pounds. List price for a 24 by 20 by 12-in. unit is $6.25 as an example. Others are comparable.

If you write maker identify as IEN - 11086

CORROSION PROOFING .. Liquid for use on pipe, fittings, tanks

Source: HIGHSIDE CHEMICALS CO.
8-12 Colfax Ave., Clifton, N. J.

Pints to 10 lb. cans

New form of the company's material Leak Lock, previously described IEN 11369-50, as a sealing material for threaded and flanged pipe lines, is available to apply on exposed surfaces of pipe, fittings, tanks. The liquid material air dries to a smooth glossy flexible finish that will absorb scratches and blows. It will not crack or peel. Application is by brushing, spraying or dipping. The coating remains serviceable in a range of temperature between sub-zero to 400 deg. F. and is resistant to attack by a variety of chemicals.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER .. Descriptions .. Ratings .. See Page 80

If you write maker identify as IEN - 11087

Lacquer-Stik

a Wipe-on for quick permanent coloring of stampings, engravings, symbols and designs

For use on metal, glass, ceramics, plastics

Permanent marking of stampings, engravings and designs is made easy by the use of Lacquer-Stik. Just apply—wipe off excess ... and you have a permanent mark. Used for marking radio and television dials, knobs on stoves, graduations on instruments, etc.

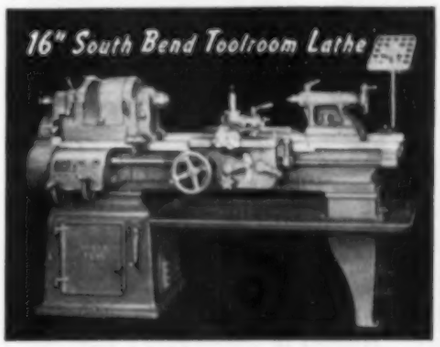
8 colors to choose from

WRITE FOR SAMPLE.

LAKE CHEMICAL CO.
3075 W. Carroll Avenue, Chicago 12, Illinois

If you write maker identify as IEN - 11088

FIRST CHOICE



Versatile ... highly accurate ... easy to operate, this quality-built toolroom lathe is first choice among toolmakers because it makes their most difficult, close-tolerance jobs easier. Designed for hard industrial use, it will continue to turn out, year after year, the kind of precision work modern machining practice calls for. Write for catalog on the 16" Toolroom Lathe today.

SOUTH BEND LATHE
SOUTH BEND 22, IND. • Building Better Tools Since 1906

If you write maker identify as IEN - 11089

need a BUCKET ELEVATOR?

If you do, whether for replacement or a new installation, the place to find it is in the complete Chain Belt line. Rex® Standard Bucket Elevators are of highest quality, built to proved designs. They will handle virtually any type of free-flowing material and are available in a wide variety of types and capacities.

For more information, write today to Chain Belt Company, 4675 W. Greenfield Ave., Milwaukee 1, Wisconsin.

REX **Chain Belt** COMPANY OF MILWAUKEE

If you write maker identify as IEN - 11090

Now! **A NEW CONCEPT IN POWER PRESS OPERATION ....**

Pictured is Famco's 18-ton open-back, inclinable power press featuring the exclusive Electromatic clutch.

SOLENOID OPERATED CLUTCH

famco *Electromatic* **18-TON POWER PRESS**

CHECK THESE FEATURES

1. EFFICIENCY—Solenoid operated, positive-locking, 8-point clutch jaws for greater efficiency.
2. ECONOMY—Less maintenance, minimum production time losses.
3. SAFETY—Electrically controlled for safe operation, tooling.
4. LONG LIFE—Proved design, rugged, longer-lasting press.
5. EASE OF OPERATION—Feather-light foot or hand control.
6. SIMPLIFIED CLUTCH CONTROL—Selector switch for single-stroke, neutral, or continuous operation, while press is or is not running.

Famco now offers the most fool-proof, small power press clutch ever designed—the solenoid operated, nine-point jaw clutch. The handy selector switch provides ready changeability from non-repeat single stroke to continuous operation—from on to off positions—plus, a neutral position which locks the clutch, making hand or foot controls inoperative.

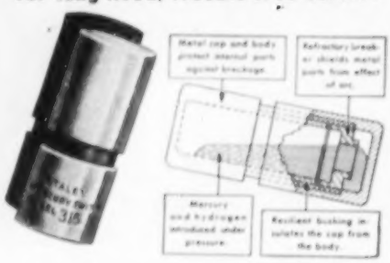
The Electromatic 18-ton Power Press gives the greatest versatility and ease of operation, resulting in increased efficiency and production. For further details contact your Dealer, or write for catalog.

famco COST CUTTING **machines**
FAMCO MACHINE CO. • 3110 Sheridan Road • KENOSHA, WIS.

If you write maker identify as IEN - 11091

USE STALEY METALLIC MERCURY SWITCHES

for long-lived, trouble free service



Millions in Use — here's why!

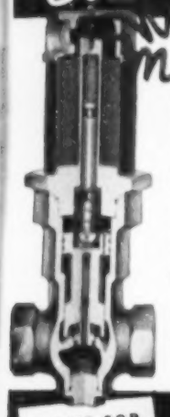
1. Positive mercury-to-mercury contact without danger of breakage.
2. Concentric design—never a wrong side up in any installation.
3. De-ionized arc quench occurs in an inert gas, insuring long life and dependable service.
4. Handle instantaneous loads several times rated capacity; high degree of safety in explosive atmospheres.
5. Available in two types: (1) non-insulated for clip mounting; (2) insulated and provided with flexible terminals.

For a better method of making and breaking electrical circuits, with no switch points to burn, pit or stick and no glass to break, standardize on long-lasting Staley Metallic Mercury Switches. Millions in use. Write today for descriptive Bulletin.

ELECTRIC SWITCH CORPORATION
1303 E. Eleventh Street, Columbus, Indiana

If you write maker identify as IEN - 11092

ATKOMATIC *Solenoid* Valves



FOR AUTOMATIC OR REMOTE CONTROL

1. **DAMAGING WATER HAMMER ELIMINATED.**
2. **ALL INTERNAL PARTS ACCESSIBLE** without removing valve from line or breaking electrical connection.
3. **PACKLESS**—sealed operating chamber. No outside moving parts.
4. **ONLY 3 MOVING PARTS,** and no linkage of parts.
5. **LINE PRESSURE IS MAIN ACTUATING FORCE**—operates with slight pressure drop across seat.
6. **OPERATING PRESSURES TO 3000 PSI.**

ALL SIZES ¼" to 3"

WRITE FOR LITERATURE

Atkomatic Valve Co.
543 WEST ABBOTT ST.
INDIANAPOLIS 25, INDIANA

If you write maker identify as IEN - 11093

with AURAND CLEANING TOOLS

Clean off accumulations of scale, paint, rust or any foreign matter from any hard surface with Aurand Cleaning Tools. Toothed cutting wheels, loose pinioned on rotating head chip away accumulations at high speed. Positive depth shoe prevents cutting into permanent surface and assures uniform cleaning of entire area.

Two sizes in electric or pneumatic models.

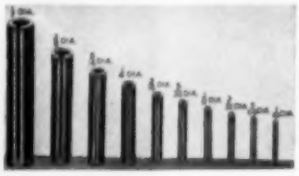
FOR FULL DETAILS, WRITE DEPT. 649

AURAND MFG. & EQUIP. CO.
2843 Coleraine Avenue • CINCINNATI, OHIO

If you write maker identify as IEN - 11094

FASTENING . . Split cylindrical pin to key, pin, bush equipment assemblies

Source: SELF LOCK FASTENER CORP.
249 Stephens St., Belleville 9, N. J.



Samples and technical data on request

Three new diameters, measuring 0.312, 0.375 and 0.500 in., have been added to the company's line of pin type fasteners, previously described IEN-1104-52. The line now includes nine sizes ranging from 0.062 to 0.500 inch. The smallest is in nine lengths from 0.250 to 0.750 inch. The largest measures 0.625 to 3.500 in. in 21 lengths. Special sizes are available on quantity order.

Sel-Lok is the trade name. The pin provides radial spring action to compensate for normal differences in drilled diameters. It grips in a hole against the loosening action of vibration. It absorbs shock loading. It is designed to take the place of solid dowels or tapered pins.

If you write maker identify as IEN - 11095

HANDLING . . Safety container for flammable liquids, 1 to 5 gallons

Source: EAGLE MFG. CO.
25th & Charles St., Wellsburg, W. Va.

Hinged cover is held by a spring over the opening in the top of this new Safety Can. It is opened by drawing back the carrying handle. It closes by spring action when the handle is released. The body is mounted on a supporting ring so the bottom does not contact the ground. The construction meets requirements of State and Municipal Governments having safety laws for handling, transporting and storing flammable liquids. It is Underwriters' Laboratories, Inc. inspected. Three sizes hold 1, 2½ and 5 gallons.

If you write maker identify as IEN - 11096

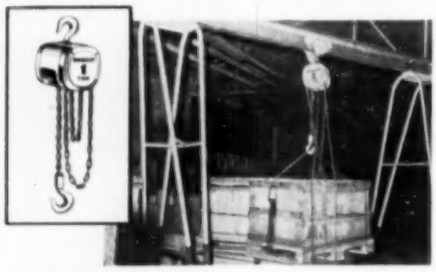
GOVERNMENT . . Book describes how it is set up along with functions of each branch and major officials

Superintendent of Documents
Government Printing Office, Washington 25, D. C.

1952-53 Edition of the United States Government Organization Manual is a 742-page book, list price $1, on the functions and activities of the government as of July 1, 1952. It covers legislative, judicial, executive branches, emergency agencies, international organizations. What each does is described together with names of major officials, telephone numbers, organization charts, and several indexes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11097



MOVE INTO SPEED LIFTING---

Every spot-lifting job is a job the 'Budgit' Aluminum Chain Block can handle faster and better. It's a knockabout hoist — a light, portable hoist anyone can carry, hang up and operate. The ¼-ton size weighs a mere 29 lbs. You can lift the full load with a 25-lb pull on the hand chain. Other available capacities are: 1,000, 2,000 and 4,000 lbs.

Learn why the 'Budgit Aluminum Chain Block can't be matched by any other manually operated hoist in speed, ease of use, safety, durability, economy. Write for Bulletin 398.

MAXWELL MMM MANNING

'Budgit'®
CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
Muskegon, Michigan

Builders of "Shaw-Box" Cranes, "Budgit" and "Load Lifter" Hoists and other lifting specialties. Makers of "Ashcroft" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, "American" Industrial Instruments.

If you write maker identify as IEN - 11098

MEASURE TENSION at a glance with Apco Mossberg Torque Tools

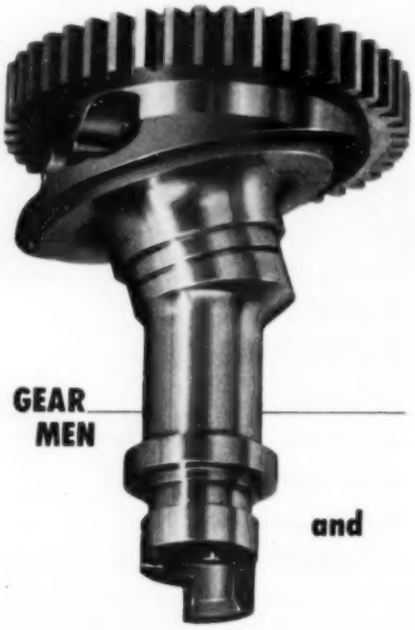
There's no need for guesswork in testing or adjusting final tension on precision assembly screws — not when you can do the job quickly and accurately with Apco Mossberg Torque Screw Drivers!

Now available in a full range of sizes — from 0-6 inch ounce models to 0-24 inch ounce models with large positive and positive-negative dials — Apco Torque Screw Drivers facilitate controlled screw tightening on all types of electrical equipment. Every model is easy to handle . . . simple to operate . . . completely dependable. Large, easy-to-read dials assure fast, accurate measurements. AND . . . Apco Torque Drivers feature standard Stanley Tool holders to accommodate interchangeable bits, make tightening and testing torque on all types of screws *easy* — even on light plastic screws where uniform tension is a requisite.

Contact your distributor or write direct now, for complete details on these and other Apco Mossberg "Torque Tools for Industry."

APCO MOSSBERG CO.
ATTLEBORO, MASS.

If you write maker identify as IEN - 11099



GEAR MEN and MACHINES

It is men . . . know-how . . . and the spirit to produce that delivers the gears when they are needed. It is the desire from top management down to deliver the goods, trouble-free and on time, that constitutes the big difference between manufacturers of gears.

Amgears has complete facilities to produce a full range of sizes from fine pitch instrument and aircraft gears to heavy gears for construction equipment, and includes facilities for manufacturing gear assemblies to your specifications. Our large capacity in effect provides a completely tooled, fully manned gear department for each customer.

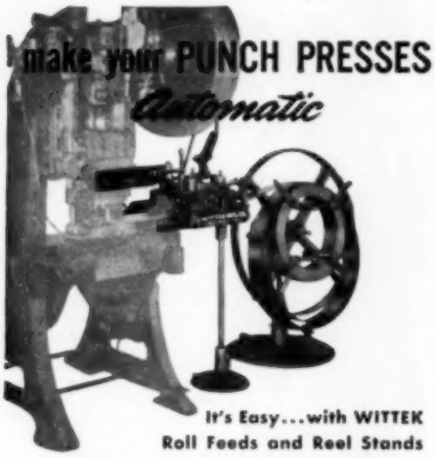
Amgears manufactures spurs, sprockets, helicals, worms and worm gears, racks, straight or spiral miter and bevel gears—of both precision and commercial quality in any quantity.

Enclosed and open gear assemblies are an Amgears specialty. Many industrial concerns have found Amgears' experience in making complete gear assemblies both helpful and profitable.

It will pay you to investigate. Why don't you call, wire, or write for an Amgears Engineer!

AMGEARS, INC.
6633 W. 65th St., Chicago 38, Ill. POrtsmouth 7-2100
7450 Meloeile, Detroit 17, Mich.
SUBSIDIARY OF THE HUPP CORPORATION

If you write maker identify as IEN - 11101



It's Easy...with WITTEK Roll Feeds and Reel Stands

Wittek Roll Feeds handle any type of coiled strip stock and are made in single roll, double roll, and compound types with straighteners, in models to feed in any of four directions. They are reliable and accurate with simple, quick adjustment of feed length. Standard sizes and models meet a wide variety of press size and capacity conditions.

Wittek Reel Stands facilitate handling coiled stock.

Write for full particulars

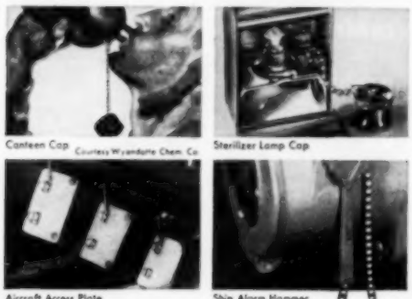
WITTEK Manufacturing Co.
4336 W. 24th Place, Chicago 23, Illinois

Automatic ROLL FEEDS AND REEL STANDS

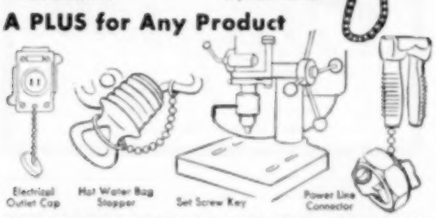
If you write maker identify as IEN - 11102

Secure LOOSE PARTS with Bead Chain

A MUST for Military Products



A PLUS for Any Product



When a householder or industrial worker mislays an essential part of your product, he may suffer inconvenience or minor hardship. But, loss of some important small part of military equipment may mean that men are lost, too.

As a positive leash for straying parts, nothing can equal Bead Chain! Non-kinking, free-swiveling action assures full freedom in using the part or tool secured. It is small, light, attractive . . . yet strong enough to hold under abusive strains.

Check your product now! Leash any part that may stray. It costs only a penny or two, as a rule, to add a Bead Chain retainer that's worth dollars as a trouble-saver for your customers.

Kinkless Chain of a Thousand Uses

Design ingenuity can employ Bead Chain in many unique ways to gain new product appeals, please buyers, cut costs. For example: A low-cost non-slip chain drive for business machines, TV tuners, venetian blinds etc. Pulls for electric lights, fans, registers, zippers. Trimming for leather goods, wearing apparel, etc. Suspensions for light bowls and signs . . . and in countless other ways.

Get "Bead Chain" . . . Get 4 Plus Values

As the world's largest producer of Bead Chain, the Bead Chain Company offers you: (1) Dependable quality and delivery. (2) Unmatched application help based on experience with thousands of users. (3) Widest selection of chain sizes, styles, metals, finishes—and attachments to fit every need. (4) Money-saving assembly service which provides made-to-your-order assemblies.

NEW! Bead Chain Catalog-Data Folder. Write today!

BEAD CHAIN®

The Bead Chain Mfg. Co., 59 Mt. Grove St., Bridgeport, Conn.

If you write maker identify as IEN - 11104

GAGE . . Electric comparator reads over and under a master dimension

Source: DOALL CO.
252-56 N. Laurel Ave., Des Plaines, Ill.

It splits split hairs

The spindle in this new electric comparator is equipped with armatures to move in relation to electric coils secured in the spindle head. The coils form part of an inductance bridge circuit. They unbalance the bridge when the spindle moves in one direction or the other. The amount of this movement and its direction are read on a meter connected to the bridge circuit. The armatures are supported in flexure by two circular diaphragms so no part of the assembly is in sliding contact with any other part and only the air gap changes between the armatures and the coils.

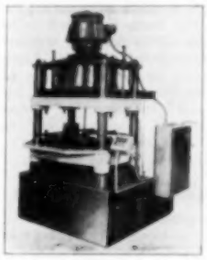
The gage is available in a number of sizes with standard height capacity at 6½ in. and depth at 4 inches. A special long column can be specified for greater height to 20 inches. Spindle pressure is adjustable from 4 to 40 oz. by turning a knob. A spindle lifter is supplied for use on small and delicate work pieces. Spindle tips are made of boron carbide. The head swivels through a complete circle in both horizontal and vertical planes. It can be removed from the column to apply in special set-ups.

Sensitivity can be set in any one of four ranges on each gage in the line by operating a switch. Thus Model 10 can be adjusted to read plus or minus 0.000020, 0.000040, 0.000200 and 0.000400 inch. Each division has a value of 0.000001 in. in the 0.000020-in. range.

If you write maker identify as IEN - 11105

DRILLING . . Multi-spindle machine mounts as many as 600 drill spindles

Source: ZAGAR TOOL INC.
24002 Lakeland Blvd., Cleveland 23, Ohio



Strictly for production

Four sizes are now standardized in the company's line of multi-spindle drilling machines with head diameters at 16, 24, 32 and 40 inches. As in previous designs a vertical motor drives the head mechanism which consists of oscillating plates and crank-equipped spindles in a gearless design. The motor ranges from 5 to 30 hp. in size.

The work mounts on a table that is moved upward by hydraulic pressure to feed into the drills and is lowered to original position after the drilling is completed. The operating cycle can be set for automatic or semi-automatic action by means of electric controls. Oil and coolant reservoirs, pumps, hydraulic controls and their motor drives are located in the steel base. The heads can be set up for any desired pattern.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11106

Machine Ground from Masters --

GIVE MORE EFFICIENT PERFORMANCE
- complete concentricity
- accurate flute spacing
- uniform angles
- better cutting
- longer life

MEET EVERY JOB REQUIREMENT
- 14 standard shapes, plus scores of specials
- 3 shank sizes, 1/4", 3/16", 1/8"
- 3 standard cuts, fine, medium and coarse special cuts to specifications

Pratt & Whitney Kellerflex Burs will help do your finishing jobs faster and better and at lower costs. Send your worn burs to us for conversion to a faster-cutting, longer-lasting bur. Write today on your Company letterhead for your copy of the P&W Kellerflex Bur Catalog that lists and illustrates every standard bur in the complete P&W line and tells you how to get the most out of your burs.

PRATT & WHITNEY
DIVISION NILES-BEMENT-POND COMPANY
WEST HARTFORD 1, CONNECTICUT, U. S. A.
BRANCH OFFICES IN PRINCIPAL CITIES

If you write maker identify as IEN - 11107

Only 4 Sizes COVER WIRE RANGE

Made for #4 to 1000 MCM — in only 4 sizes! Ideal for end-to-end connections because they are so easy to install, and make a neat, compact, easy-to-tape joint.

Note the **inspection holes** on top and sides, enabling the wireman to **know** that the cables are properly inserted and gripped in place. Order by ampere rating: $100, $225, $400 or $650.

JASPER BLACKBURN CORPORATION
55 Madison St. • St. Louis 6, Mo. • Phone CEntral 3007

If you write maker identify as IEN - 11108

"FLATWEAVE" SLINGS

Cut materials handling costs with Roebling "Flatweaves"

"FLATWEAVE" SLINGS are tops! Their broad, flat-bearing surface prolongs sling life. "Flatweaves" speed up operations because they're extra flexible, kink-resistant, and easy to handle.

Write for free copy of the "Roebling Sling Data Book." It gives the whole story about "Flatweaves", plus money-saving facts on the full Roebling line . . . a sling for top efficiency and economy on every job. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

If you write maker identify as IEN - 11109

MAXAW 800
magic pivot does it!

HEAVY DUTY—ALL BALL AND ROLLER BEARING—INDUSTRIAL QUALITY

$89.50

Out-performs saws selling up to $145!

Here's the saw that bears down with that *extra cushion* of power and sings through the tougher cutting jobs in maintenance and industrial sawing. Cuts full 2-in. rough or semi-dressed lumber *with blade to spare*—2¾" on a straight cut, and 2 9/32" on a 45° bevel. **magic • pivot** does it!

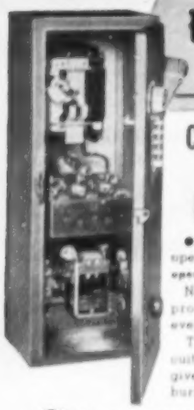
And **magic • pivot** cuts down saw weight . . . MAXAW 800 weighs only 14 lbs.—½ less than conventional 8-in. saws . . . puts less handicap on men and muscles. Get all the facts—do more—save more—with **magic • pivot** MAXAW 800!

Free Pamphlet! — Find out what **magic • pivot** can do for you. Send for Pamphlet 1-102.

Cummins-Chicago Corp.
DIVISIONS:
Cummins INDUSTRIALS • Cummins Portable Tools
4740 N. Ravenswood Ave. • Chicago 40, Illinois
IN CANADA: 339 Lauder Ave. Toronto

If you write maker identify as IEN-11110

NEW DESIGN FEATURES in this SQUARE D CIRCUIT BREAKER COMBINATION MOTOR STARTER



● Newly designed circuit breaker operating mechanism gives increased operator safety.

New design feature, added to time-proven magnetic starter, assures even longer life.

Thermal-(coilless) Magnetic Circuit breaker is non-tamperable and gives repeat protection. Nothing to burn out—nothing to replace.

Write for Bulletin 8539. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin

Ask Your Electrical Distributor for Square D Products

SQUARE D COMPANY

If you write maker identify as IEN-11111

HANSEN COUPLINGS

GIVE YOU 2 Big Advantages

● With Hansen couplings you save precious minutes every time you change air tools—every time you connect or disconnect a fluid line carrying gas, liquid or grease.

To connect, you merely push plug into socket—flow starts instantly. To disconnect, pull back sleeve on socket—coupling disconnects. Flow is shut off instantly and automatically.

Available in a wide range of sizes and types, each type engineered to meet the specific requirements of your particular application.

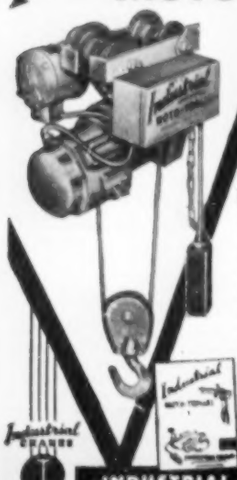
One-way shut off, two-way shut off, and straight through types.

Write for Catalog

THE HANSEN MANUFACTURING COMPANY
4021 WEST 150th STREET • CLEVELAND 11, OHIO

If you write maker identify as IEN-11112

Industrial MOTO-TROLLEY



MAY BE ATTACHED TO YOUR STANDARD ELECTRIC HOIST...

ADJUSTABLE TO ACCOMMODATE WIDE VARIETY OF BEAM SIZES

● Crown-tread machine steel wheels with hardened drivers.

● Each wheel equipped with double-row precision ball bearings and removable-head axle with Alemite grease fittings.

● Powered by a crane-duty high-torque totally enclosed motor of 30 minute 55 degree rating.

● Magnetic contact panel has transformer to reduce voltage in single speed push button control circuit.

● 4-button control station operates single speed trolley and hoist motions.

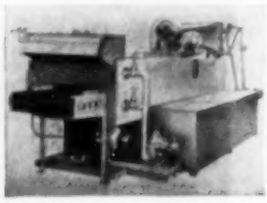
Write for Literature

INDUSTRIAL EQUIPMENT CO.
321 NORTH ADA STREET CHICAGO 7, ILLINOIS
Representatives in Principal Cities.

If you write maker identify as IEN-11113

CLEANING .. Washing machine spray cleans and dries engine shafts

Source: ALVEY-FERGUSON CO.
344 Disney St., Cincinnati 9, Ohio



Built to order

The conveyor on which work is moved first through a washing compartment and then through a drying compartment in this new washing machine is made up of shafts mounted between side chains and equipped with steel work supporting discs. The work pieces, rocker arm shafts for an engine, ride on the discs to present a maximum amount of unobstructed surface to insure thorough washing and drying.

Cleaning solution is held in a tank at the side of the machine for delivery to the spray heads by a motor driven centrifugal pump. Return is to the tank through a chamber equipped with two screens so one can be removed at a time for cleaning without interrupting the operation. Mounted on top of the machine above the drying compartment is a motor driven centrifugal blower and heating coil to deliver hot air over the cleaned work that will dry the shafts.

If you write maker identify as IEN-11114

FIRST AID .. Eye washing fountain to remove chemicals, vapors, dusts

Source: LOGAN EMERGENCY SHOWERS INC.
P. O. Box 111-A, Glendale, Calif.

For danger spots

Quick action to gently spray a large volume of water on a worker's eye and face characterizes this new first aid wash fountain. Construction includes a porcelain enameled bowl with chromium plated brass fittings in either pedestal design or for wall mounting.

The water is turned on by arm action against a valve wing at one side. Fine gentle spray issues from heads on each side aiming upward and toward the center. A worker who has come in contact with acids, chemicals, fire can quickly immerse his whole face in the spray.

If you write maker identify as IEN-11115

GRINDING . . Discs for surface grinding. 60-page booklet tells how to select and apply them

Gardner Machine Co.
51 State Line Road, Beloit, Wis.

Helpful information for users of abrasive discs for surface grinding is contained in new "Abrasive Disc Guidebook", available upon request. It covers such points as abrasive fundamentals, selection of abrasive discs, speeds, mounting methods, recommendations for metals and non-metals.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11116

WICKWIRE ROPE SLINGS

tough...strong...extra flexible

Wickwire Rope Slings are offered in both braided and conventional types . . . are designed to hitch on to heaviest loads with utmost safety, ease of handling and absolute security of attachments. Where extreme flexibility is required, Wickwire Slings of braided design give definite advantages in non-kinking qualities and in their ability to handle materials of all types and shapes without taking a permanent set.

Let us know your requirements. Our engineers will be pleased to analyze your sling problems and recommend the correct solution.

THE COLORADO FUEL AND IRON CORPORATION — Abilene (Tex.) Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
THE CALIFORNIA WIRE CLOTH CORPORATION — Los Angeles Oakland • Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga Chicago • Detroit • Emlenton (Pa.) • New York • Philadelphia

WICKWIRE ROPE
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL AND IRON CORPORATION

If you write maker identify as IEN-11117

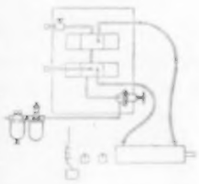
NO INSTRUCTIONS NECESSARY WITH THIS EXTINGUISHER!

IT'S A RANDOLPH!

From Bracket to Blaze in split seconds! No valves to turn, no nozzles to adjust; just point and press your thumb and Randolph's cloud of snowy CO_2 kills fire instantly. Non-damaging, non-toxic, won't conduct electricity, deteriorate or freeze. A complete line of extinguishers. Underwriters' approved. Write for catalog to RANDOLPH LABORATORIES, INC.
6 E. Kinzie St.
Chicago 11, Ill.

If you write maker identify as IEN-11118

NORGREN solves precision control problem on CONTINENTAL PIPE CUTTERS



● Write, now, for details on this application . . . Norgren Blueprint No. 116 . . . and how Norgren products may help solve your problems.

C. A. Norgren CO.
3432 S. ELATI ST., ENGLEWOOD, IN COLORFUL COLORADO

If you write maker identify as IEN-11119

Quality Assured

Accepted everywhere for quality and performance based on rigid tests to government specifications.

CURTIS UNIVERSAL JOINTS

Single or Double

Curtis "Standards" — of selection, heat treatment, strength, accuracy, tolerances, concentricity and smoothness — surpass the Class I specifications of the AAF. Today these standards — and Curtis Universal Joints — are used in every branch of the Armed Services.

14 stock sizes to choose from with facilities immediately available for specials to specifications.

ONLY CURTIS OFFERS ALL THESE ADVANTAGES

Availability — 14 sizes always in stock.
Simplicity — fewer parts, simpler construction.
Government Tests — complete equipment for government tests in our plant.

Write today for free engineering data and price list

CURTIS UNIVERSAL JOINT CO., INC.
7 Birnie Ave. Springfield, Mass.
As near to you as your telephone

A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1919

If you write maker identify as IEN-11120

TANK CAR is easily freed of fumes for workers' safety.

CHEMICAL STILL is here ventilated while being repaired.

KEEP AIR FRESH

in confined places with COPPUS *Design "A" Ventilator*

Improve workers' safety — health — comfort — efficiency. Get rid of dangerous gases, fumes, stagnant air. Coppus Design "A" Ventilator ventilates tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages. For complete information, write Coppus Engineering Corporation, 150 Park Ave., Worcester 2, Mass. Sales Offices in *Thomas' Register*.

Other "Blue Ribbon" Products in *Chemical Engineering Catalog, Refinery Catalog, Best's Safety Directory* and *Mining Catalogs*.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

If you write maker identify as IEN-11121

Hydrohoner—product of Micromatic Hone Corporation, Detroit, Mich.

For Precision Performance

MICROMATIC HONE picks this NAMCO TEAM

Snap-Lock Limit Switches

Over 90% of the nation's leading machine tool builders have standardized on Snap-Lock Limit Switches for use under the extremes of heavy-duty service. Quick, positive action in indexing the work-table—and completely dependable long-term service—are the reasons Snap-Lock Limit Switches were selected for this Hydrohoner application. *Snap-Lock Limit Switches are built in a variety of types and sizes to suit every industrial application; special mountings are available.*

For more information on Snap-Lock Limit Switches, ask for Engineering Bulletin EM-51.

Namco "Stellite"-Welded Solenoids

High-speed action and exact control of critical motions are characteristics that have been performance-proved by hundreds of users of Namco "Stellite"-Welded Solenoids. Typical of this precision service is their application to govern the hydraulic movement of the twin spindle heads of the Hydrohoner illustrated, product of the Micromatic Hone Corporation. *Namco Solenoids are available in push or pull types (up to 25 pounds) for either A-C or D-C service in a variety of standard mountings, to meet almost every industrial application.*

For more information on Namco Solenoids, ask for Engineering Bulletin EM-52.

ELECTRICAL MANUFACTURING DIVISION
178 East 131st Street • Cleveland 8, Ohio

NATIONAL ACME
CLEVELAND, OHIO

If you write maker identify as IEN-11123

SEALING . . Protective sleeves, caps for internal and external application

Source: PRECISION PAPER TUBE CO.
2061 W. Charleston St., Chicago 47, Ill.

To throw away or use again

Custom fabricated protectors for threads and finished surfaces are now available following the company's initial development of the line, previously described IEN-1341-45. The parts are made of Kraft, fish paper, cellulose acetate. They are acid free, non-corrosive, oil resistant. They are available in specified sizes and shapes. They can be formed, crimped, perforated to fit irregularly shaped parts. Each is spirally wound and is supplied to tolerances within 0.003 in. of specified dimensions.

If you write maker identify as IEN-11124

DRYING . . Refrigerating unit removes excess moisture from a room

Source: FRIGIDAIRE DIVISION
302 Taylor St., Dayton 1, Ohio

Specifications upon request

Two new units have been added to the company's line of refrigerating type dehumidifiers with capacities respectively at 30 and 50 gal. of water per day. Both are assembled in rectangular housings, the smallest measuring about 22 by 40 by 81 in. and the largest about 28 by 40 by 86 inches. Operation can be set to remove moisture, then reheat and return it to the space served at normal room temperature, or to deliver the cooled air to lower the room temperature as well as to dehumidify. The drive rates 3 and 5 hp.

If you write maker identify as IEN-11125

CASTER . . Plain and swivel design employ 6 to 16 in. rubber tired wheels

Source: GODDEYNE WHEEL PRODUCTS
1302 N. McLellan St., Bay City, Mich.

Soft and easy

The company announces purchase of the Wheel Products Division of Kayel Machine & Tool Company and now offers its new line of swivel and rigid casters with semi-pneumatic or solid rubber tires. Load rating, depending on size and tire requirements, ranges from 90 lb. for the 6-in. wheel to 625 lb. for the 16-in. wheel. The load is carried on a ball bearing. A tapered roller bearing takes side thrust. The rim mounted tires bolt in place for quick change. Fork construction in the heavy duty units is ribbed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11126

YOU'LL DO IT BETTER WITH Ledeen CYLINDERS

WHENEVER YOU HAVE TO...

PUSH or PULL
LIFT or LOWER
PRESS or SQUEEZE
TILT or TURN
OPEN or CLOSE

Ledeen cylinders used for air, oil, water, gas or steam operation with medium, heavy or super-duty models, provide a large number of variations and adaptations to meet your specific power or motion requirements. They are available in many diameters and stroke lengths with suitable head and rod attachments to provide almost any desired mounting.

Standard Ledeen cylinders and mountings from distributors' stocks in major cities. Special cylinders if required. All J.I.C.

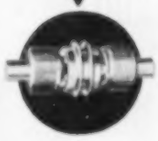
WRITE FOR BULLETIN 500

Ledeen Mfg. Co.
1602 San Pedro
Los Angeles 15, Calif.

VALVES • CYLINDERS
AIR-HYDRAULIC
PUMPS & BOOSTERS
VALVE ACTUATORS
AIR HOISTS

If you write maker identify as IEN-11127

Irons A Whole Sheet



With A Single Pass

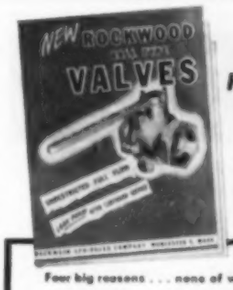
The American Laundry Machine Company's Super-Sylon Flatwork Ironer irons table and bed linens so gently that it will iron paper napkins. ROCKFORD CLUTCHES are specified for American multiple chest flat-work ironers. Let ROCKFORD clutch engineers help your product designers specify the precise power transmission control needed for your machines.

B-W ENGINEERING MAKES IT WORK
B-W PRODUCTION MAKES IT AVAILABLE
ENGINEERING BULLETIN SENT ON REQUEST

ROCKFORD CLUTCH DIVISION
3101 Catherine Street, Rockford, Illinois, U. S. A.

ROCKFORD CLUTCHES

If you write maker identify as IEN-11128



Booklet tells HOW and WHY ROCKWOOD BALL VALVES OUTPERFORM THEM ALL

Four big reasons . . . none of which can be overlooked.

1. They open and close quick and sure.
2. They're leakproof.
3. Stay leakproof.
4. Require no maintenance. And they assure full round flow of the fluid.

Bulletin V-4 Tells All

. . . How in industry after industry this superior valve lives longer. Keeps operating costs low. Chemical, paper, textile, petroleum, food and many other fields demanding continuous operation rely on Rockwood.

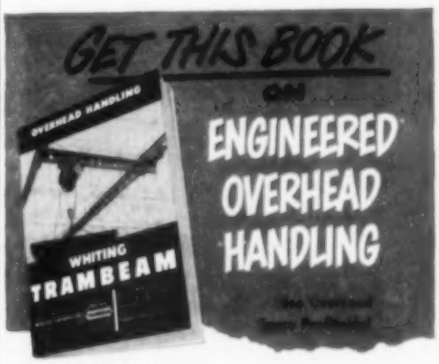
Get details on the new advances in ball valve applications in many industries. No obligation. Write for Bulletin V-4 to Rockwood Sprinkler Company, 60 Harlow Street, Worcester 5, Mass. Distributors in all principal cities.

Tested by Underwriters' Laboratories, Inc.

ROCKWOOD

ROCKWOOD FULL-FLOW BALL VALVES
THE FLOW IS AS ROUND AS THE PIPE ITSELF

If you write maker identify as IEN-11129



This booklet is the first step to fast, flexible materials handling. It tells all about Whiting Trambeam Systems . . . the sure way to increase plant capacity, step-up production, save space, manpower and money! Write today and ask for Bulletin M-20.

WHITING CORPORATION
15629 Lathrop Avenue • Harvey, Illinois

WHITING TRAMBEAM® Overhead Handling Systems

If you write maker identify as IEN - 11130

if loads are your problem use

GUIDEROL®

bearings for greater capacity

Are you looking for a way to carry greater loads more efficiently in smaller spaces — a way to improve the performance of your tougher bearing applications without increasing bearing space? You'll find the answer in McGill Guiderol Roller Bearings because guided rollers permit full type roller construction without any possibility of roller skewing with limited misalignment. Capacity wasting cages are eliminated and still excessive internal looseness can be avoided. They are available in the MT and CT series — interchangeable respectively with roller bearings of needle type dimensions and ball bearings of single and double row dimensions.

GREATER CAPACITY and ANGULAR RIGIDITY

As no cages are needed, Guiderol Bearings use a full complement of small diameter rollers over which greater loads can be distributed. Also rollers of full race width provide full race support and increased angular rigidity. One Guiderol will often replace two ordinary bearings.

Rollers Roll More Load

Write today for the new Catalog No. 32. McGill Manufacturing Co. Inc., 190 N. Lafayette St. Valparaiso, Indiana.

McGILL precision bearings

If you write maker identify as IEN - 11131

What do you do when your v-belts get loose or break?

1. *Leave the drive alone* . . . get more slippage, wasted power, excessive belt wear, uneven sheave wear and less production.
2. *Slide the motor back* . . . tight belts get too tight, life of belts and bearings is reduced.
3. *Install a new set of belts* . . . discarded belts mean wasted money.
4. *Use* **VEELOS . . .** the Adjustable V-Belt

Link construction permits quick installation, easy adjustability provides controlled tension on each belt and eliminates loafers.

VEELOS THE LINK V-BELT

Write for free copy of Veelos Data Book. It gives full facts on Veelos—the belt that saves on operating and inventory costs.

MANHEIM MANUFACTURING & BELTING CO.
651 Maxhel Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

If you write maker identify as IEN - 11132

FREDDY FEDERAL SAYS . . .

"Service is often the key to low cost stampings. Securing the lowest bid isn't always enough. Exact uniformity of pieces, whether 10 or 10,000, is important. Prompt delivery when it is often a deciding factor in operating at a profit . . . or at a loss. And the manufacturer's willingness to stand behind his product is the best indication of quality.

Federal offers you these guarantees in their complete stamping service. These special services include complete die making facilities for stamping any metal, fibre, phenolic or any other material that can be stamped, in any shape or size up to 9" x 12" and up to 3/16" thickness, in quantities from 2 pieces to 10,000, plus, stamped skeleton name plates, and special stamped wrenches.

Send your prints for . . . better service . . . lower quotations . . . reduced "end-costs".

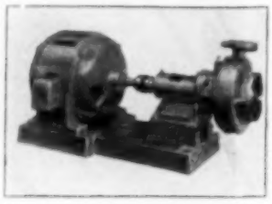
FREE . . . Our new Bulletin 161 describes Federal's complete service. Send for it today.

Federal TOOL AND MANUFACTURING CO.
3612 ALABAMA AVE. ST. LOUIS PARK
MINNEAPOLIS, MINNESOTA
"QUALITY STAMPINGS IN SMALL QUANTITIES"

If you write maker identify as IEN - 11133

PUMP . . Single stage centrifugal for chemical transfer, 10 to 250 gpm.

Source: PEERLESS PUMP DIVISION
West Ave. 26 & Humboldt, Los Angeles 31, Calif.



Ask for Bulletin B-1606

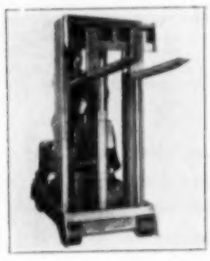
The suction side of this new Type-CTB centrifugal pump is made of No. 20 stainless steel. Inlet is to a semi-open impeller that includes repelling vanes on the back of the impeller shroud. These vanes assist in handling slurries and abrasives. They prevent accumulation of solids between the impeller and the housing wall so wear rings are not required. The pump shaft employs a mechanical seal. The shaft is carried on ball bearings.

Four sizes in the line have capacities ranging from 10 to 250 gpm. with heads from 10 to 140 ft. and drive input from 1 to 10 hp. The pump will handle liquids to 250 deg. F. It is intended primarily to transfer process chemicals such as acids, bases, salts, organic and inorganic solutions. Inlet ranges from 1 to 3 in. with outlet from ¾ to 2 inches.

If you write maker identify as IEN - 11134

TRUCK . . Power lift fork design raises load to 56 in., rates 1 ton

Source: MARKET FORGE CO.
23-27 Garvey St., Everett 49, Mass.



The operator rides

Battery powered 1-hp. motor drives this new non-telescoping fork lift truck at speeds to 4½ mph., free, or to 3¾ mph. with a 1-ton load. The motor also drives hydraulic equipment to raise and lower the forks and to tilt them forward to 5 deg. or back to 10 degrees. Lift movement with a rated load is 30 fpm. Maximum speed downward is 60 fpm. based on a capacity load at 15 in. from the front of the fork face.

The truck is particularly suited for loading and unloading automotive trucks and railroad cars and in restricted overhead locations.

If you write maker identify as IEN - 11135

DEODORIZING . . How activated carbon works to adsorb odorous vapors is outlined in new bulletin

Aerotrol Engineering Corp.
4133-37 Brownsville Road, Dept. Y, Pittsburgh 27, Pa.

Properties of activated carbon are described at the start of new 12-page Bulletin 15-C, both for coconut shell and for coal-base types. Air purification applications follow, with a table of accepted fresh-air requirements. Company's canister and panel equipment are described along with dimensions and performance data and a note on re-activation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11136

Moisture cannot penetrate the one-piece Neoprene body of a JOY electrical plug . . . when engaged, even its contacts are enclosed in a protective Neoprene housing through the *cork-like* action of JOY's famous water-seal. Permanently vulcanized to cable, it cannot crack . . . won't lose its shape . . . and requires no special considerations to insure a long life of useful service. A favorite since '26, JOY electrical connectors are now available in styles and sizes for nearly any portable electrical power transmission need. Why risk electrical misfits when the best actually costs less, in the long run? For more details ask for your free copy of Bulletin MC108 today!

ME 152.4

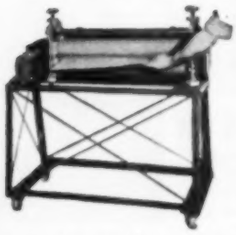
MORE THAN 100 YEARS OF ENGINEERING LEADERSHIP

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LTD., GALT, ONTARIO

If you write maker identify as IEN - 11137

Built for dependable service

POTDEVIN COMBINING MACHINE



A new, high-speed machine that combines all type glued materials to ½ inch thick and 30 inches wide.

Designed for use either for hand feeding or set up in a production line. A safety switch is provided for separating the rubber covered rollers. Machine is mounted on a rigidly constructed steel frame, easily ported about on ball-bearing castors.

Other machines available from 24 to 48 inches wide or wider on special order. Machines for combining materials up to 1¼" are also available.

Write for literature on complete POTDEVIN line.

POTDEVIN MACHINE CO.
213 North St., Teterboro, N. J.

ESTABLISHED IN 1883 POTDEVIN

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

If you write maker identify as IEN - 11138

Raybestos-Manhattan Packings and Gaskets, properly installed in your valves, are assurance of long trouble-free service. R/M manufactures a complete line of packings for use against steam, oil, water, gas, beer, acids, alkalies, brine, hydraulic fluids and practically every other commercial fluid. The R/M distributor near you will be glad to help you in selecting the right packings for your equipment.

FOR R/M "TEFLON" PACKINGS, GASKETS, SHEETS, RODS, TUBES, SEE YOUR R/M DISTRIBUTOR

R/M PACKINGS

RAYBESTOS-MANHATTAN, INC.
PACKING DIVISION, MANHEIM, PA.

FACTORIES: Bridgeport, Conn.; Manheim, Pa.; No. Charleston, S.C.; Crawfordsville, Ind.; Passaic, N.J.; Peterborough, Ontario, Canada

RAYBESTOS-MANHATTAN, INC., Manufacturers of Packings • Asbestos Textiles • Industrial Rubber Products • Abrasive and Diamond Wheels Rubber Covered Equipment • Brake Linings • Brake Blocks • Clutch Facings Fan Belts • Radiator Hose • Sintered Metal Products • Bowling Balls

If you write maker identify as IEN-11140

operating pressures recommended up to 1500 p.s.i.

CATALOG H-7 AVAILABLE ON REQUEST

"COMMERCIAL"
THE COMMERCIAL SHEARING AND STAMPING COMPANY
1775 LOGAN AVE YOUNGSTOWN 1 OHIO

If you write maker identify as IEN-11141

Letters! Reports! Drawings! Invoices! Orders!

The Amazing Desk-Top
OZAMATIC

Copies from Many Originals . . . in Seconds

No Retyping! No Proof-reading! No Stencils! No Darkroom! No Messy Inks!

JUST feed in original documents or drawings on ordinary translucent materials. One speedy, silent revolution does the work, and out comes your first copy—*clean, dry and ready-to-use!* Copies at a rate up to 1,000 an hour . . . at a cost of less than 1½c each!

You'll find countless uses for the entirely self-contained OZAMATIC. It makes Ozalid copies up to 16 inches wide, at speeds up to 50 feet per minute. Larger Ozalid machines handle wider originals, and have even greater production capacity. Any girl in your office can learn to operate any Ozalid machine in five minutes.

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OZALID

Johnson City, N. Y.
A Division of General Aniline & Film Corporation.
"From Research to Reality."
Ozalid in Canada—Hughes Owens, Ltd., Montreal.

If you write maker identify as IEN-11143

SWITCH . . Center break disconnect rates 7.5 to 165 kv., to 1,200 amperes

Source: DELTA STAR ELECTRIC CO.
2435-39 Fulton St., Chicago 12, Ill.

Ask for Bulletin 5205

Type PMK is a new horizontal center break switch for use in power lines. Construction includes a new contact assembly with independently sprung pressure applying springs, a new bronze ball bearing swivel terminal and insulator bearings in non-corroding double race stainless steel ball design. The switch has a direct linkage connection between the two rotating insulators in a Type PMK-22. It has a center bearing with a toggle linkage between the rotating insulators in a Type PMK-23.

If you write maker identify as IEN-11144

STEEL . . Precision ground flat stock, air hardening, to make dies and tools

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.

Long life for punches and dies

Number 497 designates a new line of air hardening flat stock which the company has added to its precision ground oil and water hardening types, previously described IEN-5650-47. The new steel is supplied in annealed form to assist in machining. It is cut lengthwise from a sheet and is ground to within 0.001 in. for thickness tolerance.

The steel is heated, to harden, between 1,700 and 1,800 deg. F. It retains its shape and will not crack in the hardening operation. Surface finish is between 25 and 35 microinches to assure accurate layout work. Ends are machined square. Edges are ground parallel and square. Each piece is individually wrapped and marked for size, type and heat treating instructions.

If you write maker identify as IEN-11145

SHEARING . . Portable hydraulic tool cuts through 5/16 by 4 in. mild steel

Source: MANCO MFG. CO.
Grove & West, Bradley, Ill.

Blade hinges to cut

Model S54-164E is a new addition to the company's line of portable hydraulic shears designed for operation with a motor driven pumping unit, also manufactured by the company. The shear weighs 65 lb. and will cut through mild steel measuring $\frac{5}{16}$ by 4 inches. It is equipped with 25 ft. of connecting hose to the 2-hp. motor driven pumping unit. Control is by a hand or foot operated valve. The pump and its motor together weigh 400 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11146

GENERAL-PURPOSE BEAT-FREQUENCY OSCILLATOR

For Audio-Frequency Testing
Bridge Measurements
Modulating Signal Generators

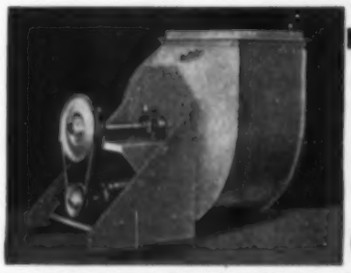
On the production line, in the field and the laboratory and in schools, unusual design features materially contribute to the accuracy and ease with which measurements can be made with the G-R Type 1304-A Beat-Frequency Oscillator.

Frequency Range: *20 to 20,000 cycles*
Main Dial: *calibration ±(1%+0.5 cycle) when standardized with neon lamp beat indicator*
Increment Dial *varies frequency from +50 to −50 cycles at any setting of main dial—accuracy of calibration ±1 cycle*
Normal *Output: 0.3 watt max. into matched load—harmonic content less than 0.25% from 100 to 7500 cycles; slightly higher below 100 cycles*
High *Output: 1 watt—distortion less than 1% from 100 to 7500 cycles; below 2% at 50 cycles*
Type 1304-A Beat-Frequency Oscillator $475

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

If you write maker identify as IEN-11147

Here's a lightweight champion with heavyweight performance!



"BUFFALO" BELTED VENT SET

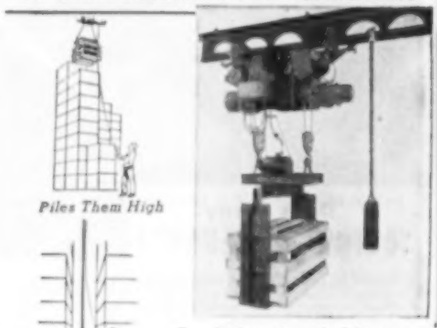
These non-overloading fans economically "belt" out a lot of air. Lightweight and compact, available in sizes 500 to 20,000 c.f.m. at ¼" static, "Buffalo" belted vent sets are quiet running and simple to install. Available with hood for outdoor installation. Write for Bulletin 5720. Get the facts now!

BUFFALO FORGE COMPANY
490 Broadway, Buffalo, New York
Publishers of "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co. Ltd., Kitchener, Ont.
Sales Representatives in all principal cities

"Buffalo" BELTED VENT SETS

If you write maker identify as IEN-11148

CRATE GRAB AND CARRIER



Piles Them High

Works in Tight Spots

Completely motorized. Lifts one or more boxes at a time to 20 ft. height. Motor-driven grab arms spread from 18" min. to 36" max. Enables quick, safe stacking at great heights. Increases storage capacity.

GET THIS BOOK!
BOOKLET No. 2008 Packed with valuable information . . . Profusely Illustrated.

Cleveland Tramrail Engineering and Application Data BOOK 2008

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4282 East 285th Street, Wickliffe, Ohio

CLEVELAND TRAMRAIL

If you write maker identify as IEN-11149

KOEHRING Cranes

If you write maker identify as IEN - 11150

From shop hoist to truck hoist . . . in seconds!

UNIT "Utility" HOIST gives greater load travel plus three lifting points with capacities ranging from 1000 to 2000 lbs.

Hydraulically operated for shop, truck or machine, the Unit Hoist makes quick work of special handling operations. Setting pipe and water hydrants, working in manholes, reaching over obstructions are easy with the new 12" Boom Extension and optional Sheave Attachment.

REDUCE material handling time. Unit gives you perfect load control plus portability. Portable floor frame permits moving to any job in the shop. Hoist when transferred to any truck equipped with well swings 360° freely and locks in traveling position. *Write for Hoist Bulletin U-2.*

PIN LOCKS HOIST IN SAFE WORKING POSITION

THE BEST WHEN HANDLING:
Drums, Motors, Buses & Crates, Transmissions, Pipe, Tires, Farm Machinery, Fixtures, Hydrants

Floor Frame Model

UNIT Manufacturers of hydraulic cylinders for original equipment

UNIT MANUFACTURING CO.
3229 HARMON PLACE • MINNEAPOLIS 3, MINN.

If you write maker identify as IEN - 11151

Does it say "CLINK" or "CLUNK"?

One of the proofs of a file's basic soundness is its clear ring—"clink"—when you tap it lightly on an anvil or other hard piece of metal. A dull "clunk" is usually a sign of "water cracks" or poor hardening.

Nicholson employs a score of checks and tests in connection with steel examination, forging, blank smoothing, annealing, cutting, hardening and other operations in the manufacture of files. The "ringing" test is one of many that lead to the final "okay" under the Nicholson policy of *Twelve perfect files in every dozen.*

This company really "leans over backwards" to put into Nicholson and Black Diamond files longer sharpness, better performance, greater value than are combined in any other commonly known brand. That's why it pays to specify them in your purchase orders . . . and why industrial distributors are proud to recommend them.

FREE BOOK, "*FILE FILOSOPHY*"

NICHOLSON FILE COMPANY, 33 Acorn Street, Providence 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON
A file for every purpose
SOLD THROUGH INDUSTRIAL DISTRIBUTORS

If you write maker identify as IEN - 11152

YOU NEED A SHOPLIFTER

to safely handle dies from storage rack to press—to lift barrels, boxes, load trucks, or to use as a handy adjustable shop table. Automatic brake holds load at any height.

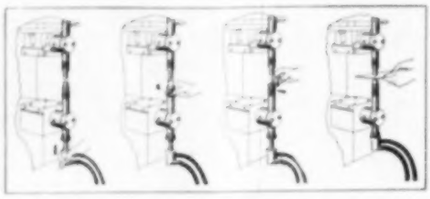
Type B—Hand operated Cap. 500 lbs. $183.60
Type DE—Electric operated Cap. 500 lbs. $412.08
Type DX—Hand operated Cap. 1000 lbs. $349.52
Type DX—Hand operated Cap. 2000 lbs. $417.52
Floor lock included. Prices net. F.O.B. Chicago

ECONOMY ENGINEERING CO.
4502 W. Lake St., Chicago 24, Ill.

If you write maker identify as IEN - 11153

WELDING . . Water cooled holder for quick spot electrode change

Source: P. R. MALLORY & CO.
3031 E. Washington St., Indianapolis 6, Ind.



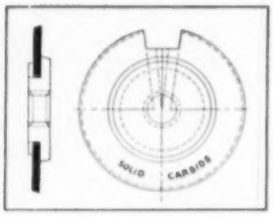
No tools are required

Nu Twist trade names a new spot weld holder and electrode for welding machines in which pressure on the work is to be at 6,000 lb. or more. The electrode is secured in the holder on flat mating surfaces that take the place of threads or tapered connections and cannot jam. A hand operated knurled locknut, back of the electrode, secures or releases it. An O-ring seal provides water tight connection for the cooling water supply. Holders are available from stock in 8 and 12-in. lengths and in four diameters from 1½ to 2½ inches. Electrodes are carried in stock in Elkaloy-A, Mallory 3 and Mallory 100 alloy materials.

If you write maker identify as IEN - 11154

LATHE TOOL . . Carbide cutter for cut-off service in screw machine

Source: GAY-LEE CO.
69-73 W. 14-Mile Road, Clawson, Mich.



Steel hub supports blade

Circular blade made of solid carbide is brazed permanently on a steel hub in construction of this new cut-off tool for Brown and Sharp automatic screw machines. The blade is gashed to provide two cutting edges for work rotation in either direction. Ten standard sizes range from 1¾ to 3 in. in diameter and from ¼ to ⅝ in. in blade thickness. Center hole and threads are to specification.

If you write maker identify as IEN - 11155

POWDER METAL PARTS . . Technical reports on the subject are summarized in a 100-page booklet

Metal Powder Association
420 Lexington Ave., New York 17, N. Y.

Hot pressing of powdered metal parts, for example the salvaging of carbide drawing dies, is the first of 11 technical papers published in the "Proceedings" of the Association's eighth annual meeting. List price is $2.50. Other topics include powder metallurgy for high-temperature applications, progress in Europe, uses in clocks, ordnance, electronic cores.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11156

LICK YOUR CONTROL PROBLEMS WITH THE SNAP ACTION Bell Switch

- Temperatures to 400°
- Fine silver contacts
- Ceramic & Fiberglas insulation
- Alnico V Permanent Magnet
- 10 amps. at 110 volts; 5 amps. at 220 volts, A. C.
- Direct loads up to ¼ h.p., A. C. ratings

MORE and more designers are finding the Bell Switch just what they need to solve their control problems. The Bell Switch is a 100% positive snap action, magnetic proximity switch that is adaptable to any application where switch must be actuated through sealed barriers. Among the many applications in which it has been so successfully employed are cutoffs for all kinds of systems, counting devices, signal alarms and operation of automatic machinery. In addition to standard models, the Bell Switch is available in immersion-proof and splash-proof models to meet the demands of even the most severe services.

Write for Detailed Information Concerning Sizes, Specifications and Application.

JO-BELL PRODUCTS, INCORPORATED
4800 So. St. Louis Ave. • Chicago 32, Illinois
Liquid Level Controls • Carburetors • Magnetic Switches • Special Controls

If you write maker identify as IEN - 11157

Thermo-COUPLES with Quick Coupling Moistureproof Connectors

When thermocouple connections are broken frequently and are exposed to moisture or are located outdoors, you can quickly connect thermocouples to extension wires and seal the connections against moisture by installing thermocouples with quick coupling connectors—covered with neoprene, slip-on jackets. Illustrated is a Protected Thermocouple with plug and jack connector and moisture-proof jacket. Available in all standard thermo-elements.

These and many other types of thermocouples and connectors are described in our catalog Q.

Write for your copy

Thermo Electric Co., Inc.
FAIR LAWN NEW JERSEY

If you write maker identify as IEN - 11158

Now STAINLESS STEEL STRIP

. . . rolled to *precision tolerances* and to *ultra-thin gauges*

WE CAN MEET your requirements for one pound—or for thousands. *And* . . . our working inventories of certain of the 300 and 400 series gives you fast deliveries, too.

WE REGULARLY CUSTOM-ROLL stainless steel strip up to 3½" wide and down to .0005" thin to tolerances as close as ±.0001".

WE'RE SPECIALISTS in cold-rolling a wide variety of metals—to your specifications . . . in *any* quantity. It's everyday work for us to roll strip to *exacting* specifications—the "tough ones" that commercial mills ordinarily refuse to produce.

We also custom-roll Beryllium Copper • Invar • Phosphor Bronze • Copper • Brass • Nickel-Silver • Stainless Steels • Nickel • Monel • Haynes Stellite Alloys • Magnetic Alloys • Chrome Iron Alloys . . . *and many others.*

WE CARRY A WORKING INVENTORY of some metals . . . and also roll your metals on a total basis. Our up-to-the-minute equipment includes precision 2-High, 4-High, and Sendzimir rolling mills . . . precision gang slitters . . . and continuous atmosphere annealers.

OUR ENGINEERING DEPARTMENT will be happy to assist you with your custom-rolling problems. Just write or call—and ask for our catalog.

INDUSTRIAL DIVISION
AMERICAN SILVER COMPANY, Inc.
36-03 PRINCE STREET, FLUSHING 54, N. Y.
Applying Science to Craftsmanship

If you write maker identify as IEN - 11159

Not on the payroll—since Transall took over

Pre-Lubricated Belt Conveyor Idlers

No Lubrication Labor
No Lubricant Cost

TRANSALL INC.
Manufacturers of a complete line of Belt Conveyor Equipment
117 North 11th St. Birmingham 4, Ala.

If you write maker identify as IEN-11160

an ACCO product

HELICOID

The gage that retains its original accuracy longer, lasts longer, costs less per gage, per year

FOUR HELICOID FEATURES

1. Stainless Steel Helicoid Roller (no gear teeth)
2. Stainless steel hair spring
3. Long Life Cam (no gear teeth)
4. Corrosion-resistant link and screws

• HELICOID GAGES, which do not have gear teeth to wear out, are made in a full range of pressures . . . in various sizes and shapes, with black, white and phosphorescent faces. For wall or stem mounting, flush or panel mounting, or flangeless. No finer gages are made. Helicoid Gages cost less in the long run.

Write today for the Helicoid Gage catalog

HELICOID Pressure • Vacuum GAGES

ACCO

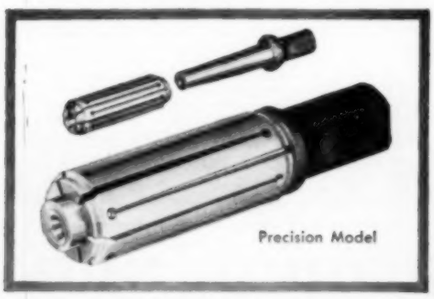
HELICOID GAGE DIVISION
AMERICAN CHAIN & CABLE
929 Connecticut Avenue · Bridgeport 2, Connecticut

If you write maker identify as IEN-11161

CHAMPION
E-X-P-A-N-D-I-N-G MANDRELS

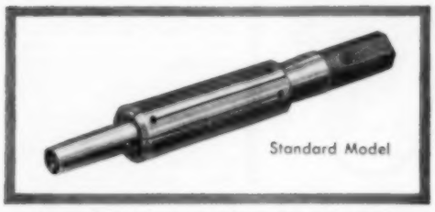
work savers—cost cutters job speeders—in any shop

Save the time spent tooling up solid mandrels. CHAMPION mandrels automatically expand to exact, positive, concentric fit as the flexible sleeve is moved along the tapered arbor. Work is quickly set up; easily taken down. Your production costs are cut, whether the job calls for machining only one piece or ten thousand pieces.



Precision Model

Precision Model positively guaranteed for precision grinding, turning and milling operations. Ideal where accuracy and time-saving are of utmost importance. Available in standard sizes from ½" through 3" diameter, graduated by 1/16". Arbor built for heavy loads. Sleeve has range of .010", from .003" under to .007" over nominal size. Positive stop at maximum size prevents overstrain. Holds tolerances of .0002" run out. Withstands hardest wear; permanent accuracy is assured.



Standard Model

Standard Model used throughout the world. Standard tool room equipment in all phases of modern industry. A set of twelve will completely and accurately fill any hole from ½" to 7" diameter—replace hundreds of solid mandrels costing many times as much. Show negligible wear after years of use. Maintain close tolerances; handle material of any length bore, hard or soft metals, from thin tubes and bushings to heavy castings and forgings.

CHAMPION Expanding Mandrels can be made in special shapes and sizes to fit any specification. Quotations on request.

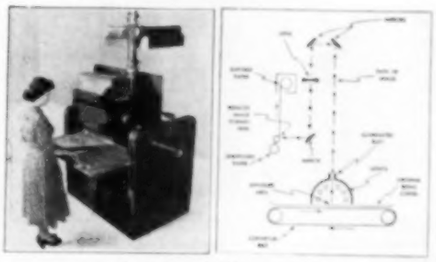
When writing, please address Dept. 200.

WESTERN TOOL & MFG. CO., INC.
SPRINGFIELD, OHIO

If you write maker identify as IEN-11163

PRINTING . . Photocopy machine to make small prints from big ones

Source: PEERLESS PHOTO PRODUCTS INC.
652 Tosia Road, Shoreham, N. Y.



$10,000 to $15,000 complete

Neo-Flow trade names new equipment that takes original prints, drawings or tracings on paper, vellum, cloth, to make reduced size copies in a range of ratios to 6 to 1, either direct reading or mirror image on sensitized paper or film. The machine takes original work to 42 in. in width and in any length. It occupies a floor space measuring about 5 by 5 feet. It stands 8½ ft. in height. It is driven by a ¼-hp. motor and has an input of 1,000 watts to this motor and exposure lamps.

The original to be copied is fed into the machine on a belt operating at 12½ fpm. The original rides under a hood into an illuminated exposure area through which the moving image is reflected upward to mirrors, down through a reducing lens, then horizontally from another mirror to a strip of sensitized paper or film which is moving at synchronous speed. As long as the original remains in motion beneath the slot the sensitized strip will move also. It stops when the end of the original is reached and remains stationary until another original comes into view.

The exposed strip winds in a protecting enclosure. It is taken from there to be put through an automatic daylight processing unit that includes developing, quick stop, fixing and washing, drying and final rewinding.

Large engineering drawings can be reduced to a smaller size for quantity reproduction on blueprint machines. Large drawings can be copied on 4 by 6-in. or 5 by 8-in. file cards for security and reference purposes. Original drawings can be reduced to a size suitable for inclusion in instruction manuals. Saving in reproduction paper costs is substantial as compared to the 1-to-1 printing procedure.

If you write maker identify as IEN-11164

GRINDING . . Mounted wheel, 1/16 in. diameter by 3/16 in. face

Source: CHICAGO WHEEL & MFG. CO.
1103 W. Monroe St., Chicago 7, Ill.

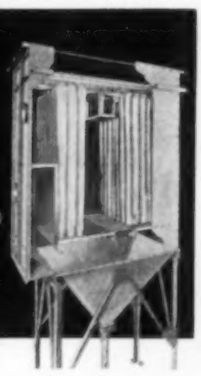
Sample upon request

The company has added a new mounted wheel to its previously developed line of miniature units to grind extremely small holes in bearings, bushings, instruments. The wheel is carried on the reduced diameter end of a $\frac{1}{16}$-in. steel shank. The wheel itself measures $\frac{1}{16}$ in. in diameter and presents a working face measuring $\frac{3}{16}$ in. in length along the axis of the steel shank. The new unit is one in a line including 127 shapes, designs and types of grinding wheel from this $\frac{1}{16}$-in. size to 8 in. in diameter as the present maximum.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 89

If you write maker identify as IEN-11165

YOU GET ALL 4 with DUSTUBE® dust and fume control



✓ High Efficiency.
✓ Simplicity of installation, operation and inspection.
✓ Low operating and maintenance costs.
✓ Rugged construction and long dependable service.

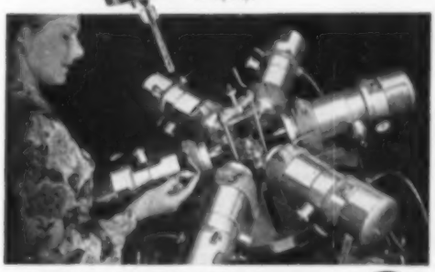
WRITE FOR NEW CATALOG NO. 72-B

American dustube
WHEELABRATOR & EQUIPMENT CORP. COLLECTORS
507 S. Byrkit St., Mishawaka Ind.

If you write maker identify as IEN-11166

Only THE DUMORE®
Automatic Drill Head offers the technique of Resistance Drilling
. . . eliminates drill breakage

THIS new Dumore tool virtually eliminates drill breakage on small-diameter, deep-hole drilling operations. Utilizing "Resistance drilling," workpiece determines drill feed and speed rate. Tool always maintains uniform pressure. Eliminates operator guesswork. Get all the facts. Ask your distributor, or write the Dumore Company.



Six Dumore Drill Heads slashed $75 from labor costs on the first run of 5275 bronze nozzle holders.

THE DUMORE COMPANY
1319 Seventeenth Street • Racine, Wisconsin

If you write maker identify as IEN-11167

SILVRAY Skylike FIXTURES . . . via Graybar

• The soft, indirect light of silvered-bowl incandescent lamps
• The modern appearance of fluorescent-type troffers

Check these quick facts on Silvray's Skylike system — you'll be impressed by the unique features of this versatile lighting fixture distributed by Graybar.

1. Units fit 24" x 24" ceiling tiles . . . can be surface mounted, recessed, or partially recessed — in rows or patterns.
2. Light weight means easier handling and less framing. Simplified wiring cuts installation time and simplifies maintenance.
3. Units cost only ½ to ⅓ as much as equipment delivering comparable results.
4. Built-in reflector and silvered-bowl light source assures high-maintained illumination levels.
5. Floor level relamping cuts maintenance costs.
6. Interchangeability of 150 to 500 watt lamps permits variable lighting intensities.

For complete information on Skylike units, as well as the wide variety of other Graybar-distributed lighting equipment, call your local Graybar Representative, or write: *Graybar Electric Co., Inc. Executive Offices: Graybar Building, New York 17, N. Y.* 276-1210

Call Graybar first for . . . Everything Electrical GRAYBAR

If you write maker identify as IEN-11168

A Platecoil has more heat transfer area than a pipe coil twice its size. Thus it takes only half as much Platecoil to heat a given area. You have 50% less steel to pay for so you can save nearly 50% in initial cost. The Platecoil takes only half as much space in the tank. The greater BTU transfer per unit area of Platecoil also means faster heating or cooling. Platecoils require less maintenance and can be removed without dumping the solution.

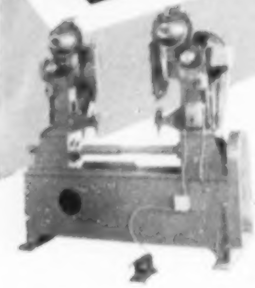
Send for complete technical manual and descriptive Bulletin 700-PC.

PLATECOIL
KOLD-HOLD MFG. CO.
LANSING 1, MICHIGAN

If you write maker identify as **IEN - 11169**

DOUBLE YOUR PRODUCTION WITH DOUBLE RIVITORS!

T-J



● Set two rivets at a time with this new T-J Dual Rivitor! Equipped with 10" hoppers, tooled to automatically feed and set two ¼" dia. x ⅝" long wagon box head rivets at a time in assemblies for farm implements. Controlled by one foot pedal.

T-J Single Rivitors available *electrically* powered for 1/16" to ¼" diam. solid steel rivets up to ⅝" long; *air-powered* for aluminum alloy rivets up to ¼" diam. or steel rivets up to ¼" diam., up to ¾" long. Throat depth, 8" to 36". Write for bulletins 646 and 847. The Tomkins-Johnson Co., Jackson, Mich.

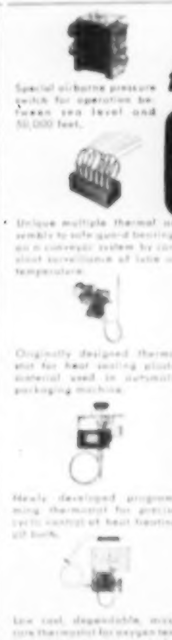
36 YEARS' EXPERIENCE (T-J)

TOMKINS-JOHNSON

RIVITORS AIR AND HYDRAULIC CYLINDERS CUTTERS CLINCHORS

If you write maker identify as **IEN - 11170**

ATTENTION!



YOUR PRODUCTS ARE BETTER WHEN SPECIFICALLY DESIGNED CONTROLS ARE USED

The controls shown were designed especially to improve product performance and thus increase product quality and sales appeal. They were developed by United Electric engineers in cooperation with the manufacturers concerned. United Electric is continually solving unusual control problems within the limits of 30" mercury vacuum to 3000 psi and -150° F to 700° F for inclusion as original equipment by manufacturers of a wide variety of products. Whether you are building 5, 5000 or more units, United would like to help you. Send complete details of your problem today.

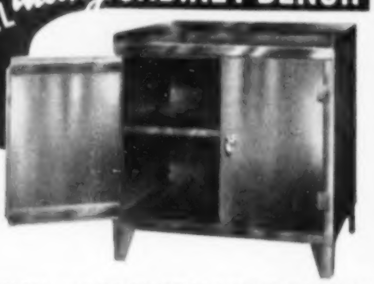
UNITED ELECTRIC CONTROLS COMPANY

84 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

If you write maker identify as **IEN - 11171**

ANGLE STEEL *Utility* CABINET BENCH



WORK BENCH and TOOL STORAGE COMBINED

You will like this all-steel heavy-duty combination cabinet and work bench. Twelve-gauge steel top, suitable for mounting small machinery. Back and end stops are removable. Adjustable shelf*, swinging doors with three point locking device. Overall 36" x 24" x 34" high. Shipped set up.

* Extra shelves available

ANGLE STEEL, Inc.
Dept. 3 Plainwell, Michigan

SEND FREE Literature ___ we're interested in: ___ Benches ___ Machine Tender Trucks ___ Stools.

Company ______

My Name ______ Title ______

Address ______

For Your Special Information

ALL MAKERS ARE LISTED **IEN S-32**

Circulation Department for Thomas' Register tells us that orders received to date indicate another early sellout for the 1953 edition. We suggest that you put your order in now to assure delivery of this source reference to all makers of all products manufactured in the United States. Price is $15 plus handling charges.

BIG SHOWS **IEN S-33**

This month starts the season of equipment and materials expositions. Three we count particularly worthwhile are the Metals Show in Philadelphia October 20th to 24th, the Power Show in New York December 1st to 6th, and the Maintenance Show in Chicago, January 19th to 22nd. There you can make first hand acquaintance with the equipment, tools, instruments, materials, product components you have seen and will see described in IEN. It is good to be able to put your hands actually on the products, to peer into their internals, to watch them at work.

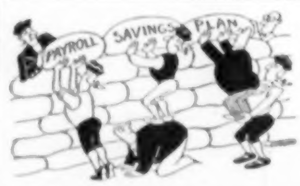
We suggest, earnestly, that you organize your visits to these expositions so you can cover them thoroughly, so you will come away with the data you want. No need to lug a heavy load of literature with you. We can help on this job. Just note the subjects on which you want it and giving the list to us. We will see it is forwarded to you when you have returned home.

YOUR OWN NEW PRODUCTS **IEN S-34**

For every new product that reaches an exposition booth during the season of industrial shows there are probably hundreds that come quietly on the market and just go to work without benefit of show promotion. We know this is so by comparing the items published in IEN with the show lists of products exhibited. It means of course that your own plants are developing many new things about which no one will know until your salesmen start promoting them to your prospective customers in industry.

There is where you can bring IEN to the attention of your sales and publicity departments. We hope you will tell them that IEN stands ready to describe the new things you are making for industrial application without obligation on your part.

All we need are the basic facts, available literature, a suitable illustration and your company authority to publish the description. We have developed a release authority and an outline of the form the information can take to best advantage. We will send you copies of both if you want them. Just write "IEN S-34" on your reader service sheet.



Top Management:

YOUR BOOST IS NEEDED MOST

If you write maker identify as **IEN - 11172**

Red Devil
the FIRST and LAST WORD in
Floor Conditioning

Red Devil — the first complete line of modern floor maintenance machines — the last word in dependable, low-cost floor conditioning. Red Devil offers large and small machines for scrubbing, waxing, polishing and steel-wool cleaning office and factory floors of wood, linoleum or concrete. Each Red Devil Floor Conditioner is the best obtainable at its price.

FP-33 Versatile, easy to use, and inexpensive. 19 lbs. Two 6" brushes. 110 V. AC-DC.

FP-1 Heavy-duty floor maintenance. Scrubs, waxes, polishes, steel brushes. 210 RPM. 56 lbs. 110 V. AC (DC extra). Also available—the FP-2 with 13" spread.

FP-11 Fast, compact, light, multi-purpose 300 RPM. 33 lbs. Converts to hand polisher. 11" brush. 110 V. AC-DC.

FP-3 4-in-1 floor conditioner. Reconditions, waxes, polishes, scrubs. 180 RPM. 110 lbs. 17" brush spread. 110 V. AC.

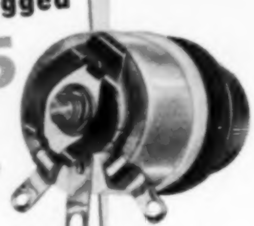
Write for RED DEVIL Catalog 21M

Products of **Red Devil Tools.** 129 COIT ST. IRVINGTON 11, N. J. U. S. A.

If you write maker identify as **IEN - 11173**

The NEW rugged A-25

"Built to take it"



TYPE A-25 (25 WATT)

Tests show that our new A-25 rheostat is so rugged that it will stand up under the most adverse conditions

It gives maximum wattage dissipation, and the added safety factor made possible by our new high temperature blue-gray enamel.

The terminals, made of strong corrosion resistant alloy, are permanently welded to the winding form.

The wound ring is made an integral part of the refractory base by vitreous enamel. The phosphor bronze actuating arm, to which is attached a graphite brush, gives perfectly smooth action, with excellent electrical control.

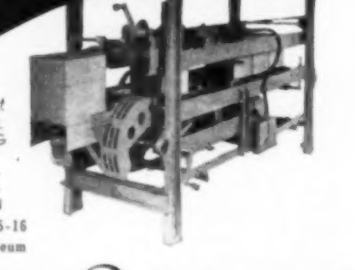
Send for new A-25 bulletin.

HARDWICK, HINDLE, INC.
Rheostats and Resistors
Subsidiary of
THE NATIONAL LOCK WASHER COMPANY
Established 1886 NEWARK 5, N. J., U.S.A.

the mark of quality — for more than half a century

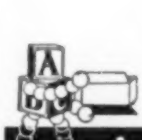
If you write maker identify as **IEN - 11174**

A shorter, narrower, simpler, and better performing case sealer



On Display at
INDUSTRIAL PACKAGING *and* MATERIALS HANDLING EXPOSITION
October 14-15-16
Chicago Coliseum

THE NEW A-B-C *Junior* CASE SEALER



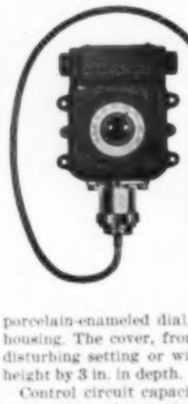
The A-B-C Junior Case Sealer automatically seals corrugated shipping containers in only a fraction of the floor space ordinarily required. Operation is fast—trouble free—economical. A completely new flight chain construction virtually eliminates carton jamming . . . Three semi-automatic models are available to fit most case sizes. Write today for details and floor plans.

A-B-C PACKAGING MACHINE CORP. QUINCY, ILLINOIS

If you write maker identify as **IEN - 11175**

TEMPERATURE CONTROL

Operates in five ranges of 150, 350, 450, 650 & 1000 deg. F.



Model Z—Temperature control for baking ovens, air heaters, plastic molding presses, soft-metal melting pots and similar devices heated by gas, electricity or oil. Calibrated and uncalibrated models for five temperature ranges: 150, 350, 450, 650 and 1,000 deg. F. Equipment includes thermostatic element with 5 ft. capillary tubing. Longer tubing to specification.

The control unit contains a Micro switch with normally-closed, normally-open or single-pole double throw contacts. On the housing face is a temperature-setting knurled knob and porcelain-enameled dial. Conduit connection is on top of the housing. The cover, front and sides can be removed without disturbing setting or wiring. Overall dimensions are 6 in. in height by 3 in. in depth.

Control circuit capacity is 500 watts ac, 50 watts dc. The thermostatic element is interchangeable, can be replaced on the job, and is furnished for a variety of applications.

List price for two-wire design is $40 to $47 for uncalibrated element ranges, $45 to $52 with calibrated elements. The 3-wire design ranges from $45 to $52 and from $50 to $57.

Send for Bulletins 505-I and 505-J

THE PARTLOW CORPORATION
4 Campion Road New Hartford, N. Y.

If you write maker identify as IEN-11176

One man can lift 80,000 lbs.

Rotary Levelator slashes handling costs

The overhead conveyor system in this plant couldn't handle loading into covered trucks and trailers. Now a Rotary Levelator (20,000 lb. capacity) does the job cheaper and faster.

Thousands of plants are using this economical equipment to lift loads directly from plant floor to trucks, freight cars, machines or different building levels. Rotary Levelators speed plant traffic, conserve manpower, cut costs. Save plant space, too . . . no need for loading dock and ramps. Safe, dependable, economical hydraulic operation. Capacities up to 80,000 lbs. Installation simple and inexpensive. Write for Catalog RE-201.

ROTARY LIFT CO.
1174 Kentucky,
Memphis 2, Tenn.

Rotary LEVELATOR LIFT

If you write maker identify as IEN-11177

Stop bothersome Blink...Blink...Blink

WITH WATCH DOG NO-BLINK FLUORESCENT STARTERS

- **Watch Dog* starters stop *blinking*** by automatically turning off a failing fluorescent lamp.
- **Watch Dog starters *keep the lamp off*** until the red reset button is pushed when new lamp is installed. No recurrent blinking every time lights are turned on.
- **Watch Dog starters *last longer***—by as much as 10 to 1. Ballasts last longer, too.

You can stop blinking—cut starter replacement costs—cut ballast replacement costs—by changing to General Electric Watch Dog no-blink starters. Also specify them when you next buy new fixtures. Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

For all replacement needs—use the famous Watch Dog no-blink starter with the red reset button.

And look for this tag when you buy fluorescent fixtures. It's your guarantee that the fixture is equipped with G-E Watch Dog starters.

*Registered Trade-mark General Electric Company

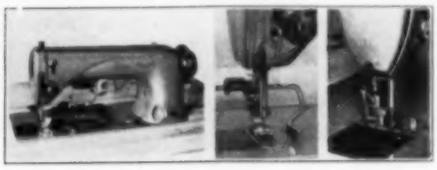
You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as IEN-11179

SEWING . . Machine attachments for pinking, guiding, stitch cutting

Source: UNION SPECIAL MACHINE CO.
402 N. Franklin St., Chicago 10, Ill.



Each attachment for a particular use

To the left in the illustration is shown a new combination of the company's Style 61400H Lockstitch sewing machine and a Lewis pinker. The attachment is connected by a worm and gear to the upper main drive of the machine. It performs the pinking operation without interference with sewing. Size of the pink changes automatically with the number of stitches. The pinking knives can be reversed and interchanged. The attachment can be made inoperative by moving a small lever.

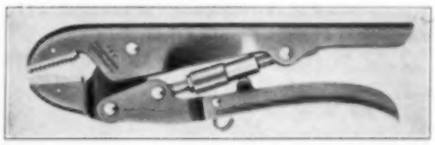
In the center of the illustration is a new quilting guide that applies on the company's Lockstitch machines in Classes 61300 and 61400 and similar machines of other makes. It is secured to the presser foot by a special bracket. It can be employed to follow a previous line of stitching or as an edge guide. It is known as No. 21240-A.

To the right is a new chain cutter that severs a chain of threads close to the work at the beginning and end of each seam. It feeds and trims the chain at any machine speed and enables the machine to be operated continuously, after running off the material, without breaking the thread. It eliminates a trimming operation on articles usually held together by the chain. It prevents unthreading the needle when starting subsequent stitching operations for the chain.

If you write maker identify as IEN-11180

WRENCH . . Plier type tool has capacity for pipe to 3/4 inch

Source: H. R. BASFORD CO.
233-37 15th St., San Francisco 3, Calif.



$2.75 and $3.25

Turnbuckle adjustment between the handles of this new Gripso plier type wrench is turned to set the point at which the toggle action becomes effective. For work that is gripped at this point the tool acts as a wrench to hold until it is manually released. A trigger release is provided for this purpose beneath the lower handle. It is operated as the handles are squeezed together. Then gripping action becomes ineffective.

The tool is employed as a plier at any point short of the over-center toggle movement. Its jaws are shaped to provide a good grip on the work. Black satin or copper-plated finish can be specified. Length is 8 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11181

Loaded with Features for...

- Smoother Performance
- Longer Life
- Better Service

WECO DROP-SIDE* SNATCH BLOCKS

Full swiveling forged steel hook designed for straight line pull . . . forged steel sheave is machine finished for smoothness . . . case hardened sheave pin has greater resistance to wear . . "Super-Oilite" bearing is precision fitted, giving maximum load distribution . . . Snarl-Proof . . . Drop-Side assures fast easy stringing without using end of line of raising hook.

Superior design and construction adds to the performance, service and life of WECO SNATCH BLOCKS . . . gives them greater strength, safety and utility . . . makes them easier to handle and safer to use.

Ask your WECO or CHIKSAN Representative or write for latest information about WECO SNATCH BLOCKS.

* Patented

WELL EQUIPMENT MFG. CORP. WECO

If you write maker identify as IEN-11182

FOR PROTECTION AND CONTROL

of Feeder Circuits, Generators, Transformer Banks, Motors

ALLIS-CHALMERS INDOOR OIL CIRCUIT BREAKERS

Type E-47 Breaker

Rated 4160 Volts, 600 Amps, 25,000-Kva Interrupting Capacity

FOR DEPENDABLE PERFORMANCE in a wide variety of applications choose Allis-Chalmers *time-proved* circuit breakers. Meeting all ASA standards, Allis-Chalmers small industrial breaker ratings range from 2500 to 7200 volts, with interrupting capacities up to 50,000 kva. They are built with the same rugged construction provided in high-voltage electric power company breakers.

For details, ask your A-C representative for Bulletins 71B6021, 71B6023, 71B6342—or write to Allis-Chalmers, Milwaukee 1, Wis.

A-2832

ALLIS-CHALMERS A-C

If you write maker identify as IEN-11183

CUTTING COSTS WITH ALLMUL

"B&W Allmul Firebrick cost half as much"

A builder of billet heating furnaces used an expensive electrically-fused mullite refractory in the piers and baffles as well as for the arches in the discharge end of the flue. Reason? Severe operating conditions at these points. Tests of B&W Allmul proved it withstood high temperatures equally well . . . cost approximately half as much. Result? Allmul is now standard for these locations.

Bulletin R-29 gives all the facts on B&W Allmul. Write for your copy.

THE BABCOCK & WILCOX CO.
Refractories Division
GENERAL OFFICES: 161 EAST 42nd ST., NEW YORK 17, N. Y.
WORKS: AUGUSTA, GA.

If you write maker identify as IEN-11184

You cut handling time to the bone with Bond

built-for-the-job CASTERS

136-A Series. Double Ball Race Swivel Caster equipped with roller bearing semi-steel wheels. Easy swiveling. Pressure lubricated. Wheel sizes from 4" to 12" dia.; load capacities from 600 to 1700 lbs. per caster.

BOND FOUNDRY & MACHINE CO.
Manheim, Pennsylvania

By design, by materials, by workmanship, Bond Industrial Truck Casters are the key to low cost-high profit parts handling. These are the casters that ably meet any service condition. Loads can be sturdy or fragile, heavy or light. Hauls can be long or short. Aisles can be broad or narrow. Turns can be easy or sharp.

Remember—the right Bond Casters will cut your materials handling time to the bone!

Get the story straight . . . leading industrial distributors throughout the country will be glad to give you complete information or write for your copy of the Bond Catalog K-38.

If you write maker identify as IEN - 11185

Now! Spray heavy red lead direct from original containers!

with Alemite VERSATAL PUMPS

Steel fabricators approve this easier, faster method of applying protective red lead coating right in their storage bays. Find it far thriftier, too! A single Alemite Versatal Pump—out of the way—out of the working area—serves many Spray Guns. Delivers the heaviest coating through hundreds of feet of pipe or hose. Pumps direct from original paint drums. Refills without shutdown. Eliminates fire hazards, waste and mess.

FREE BOOKLET! Gives all the details for using and taking full advantage of this new material handling equipment. Get your copy now. Address: Alemite, Dept. B-102, 1850 Diversey Parkway, Chicago 14, Ill.

SW ALEMITE Versatal

If you write maker identify as IEN - 11186

Measure, Cut and Strip Insulated Wire

IN ONE SPEEDY OPERATION

ON ARTOS Automatic MACHINES

Does your production require cutting and stripping of insulated electric wire, cord, cable, etc.?

You can produce finished leads much faster . . . as many as 8000 per hour in 15-in. lengths . . . on this Artos Automatic Machine. Substantial time savings are obtained over the best manual or semi-automatic methods.

Operation is fully automatic—wire is taken from the reel, measured, cut to length and stripped at one or both ends. Unskilled help can handle the machine. Set-up is easy for different wire types and lengths.

MODEL CS-6E CAPACITY

FINISHED PIECES PER HOUR—From 3000 per hour up to 15 in. lengths to 300 per hour in 84.97 in. lengths.
MAXIMUM STRIPPING LENGTH—1¼ in. at each end (greater stripped lengths are special).
MAXIMUM CUTTING LENGTH—97 in.
MINIMUM CUTTING LENGTH—2 in. (also as short as ⅛ in. under certain conditions).
TYPES OF WIRE HANDLED—Solid or stranded single conductor wires, parallel cord, heater cord, service cord, etc.
MAXIMUM WIRE SIZE—No. 10 stranded or No. 12 solid.

Other Artos Machines

The complete line of Artos automatic wire cutting and stripping machines will handle cut lengths from 1 in. to 60 ft., stripped lengths to 6½ in. at one end and 8½ in. at the other, wire from No. 12 to No. 000 gauge, and up to 3600 pieces per hour. Ask for recommendations on your problems.

WRITE FOR BULLETIN

Get the complete story—write for Bulletin 35-C on Artos Model CS-6 machines.

Automatic Wire Cutting and Stripping

ARTOS ENGINEERING CO.

2749 S. 28th St. • Milwaukee 46, Wis.

If you write maker identify as IEN - 11187

GOOD LOOKING?

YES! Hackney Seamless Deep Drawn Shapes and Shells can give your products the kind of advantages your customers will go for in a big way—streamlined shapes . . . smooth surfaces . . . absence of unsightly bolted or riveted seams. Hackney Deep Drawn Parts are strong, too—lightweight and durable. Ask Pressed Steel Tank Company engineers to help you design better looking products at low cost. Send today for full information.

PRESSED STEEL TANK COMPANY
Manufacturer of Hackney Products
1449 S. 66th St., Milwaukee 14
1322 Vanderbilt Concourse Bldg., New York 17
258 Hanna Bldg., Cleveland 15
936 W. Peachtree St., N. W., Room 135, Atlanta 3
208 S. LaSalle St., Room 786, Chicago 4
577 Roosevelt Bldg., Los Angeles 17

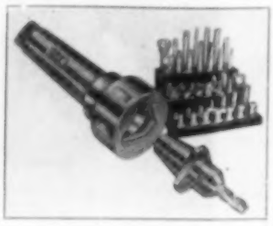
Hackney

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

If you write maker identify as IEN - 11188

CHUCK . . Cutter and tool adaptors and master holders for quick change

Source: PORTAGE DOUBLE-QUICK TOOL CO.
1034 Sweitzer Ave., Akron 11, Ohio



Set includes 57 pieces

Triple Lock PDQ is a new quick change chucking assembly of master tool holders to fit into the spindles on boring and milling machines and lathes with a range of adaptors for various types of tools and tool bits. End mills can be handled in sizes from ⅜ to 1¼ inches. Boring bars with straight or 30-deg. angle bits measure 3 to 12 in. in height. Adaptors are included for shell mills, drill chucks and boring heads. The master holders are equipped with shanks for No. 4, 5 or 6 Morse taper and for No. 40 and 50 milling machine taper.

If you write maker identify as IEN - 11189

STEEL . . Lead bearing bar stock, cold drawn, free machining type

Source: LA SALLE STEEL CO.
P. O. Box 6800-AA, Chicago 80, Ill.

Lead promotes free machining

Super La-Led is a new free machining open hearth steel containing about 0.25 per cent of lead and about 0.5 per cent sulfur. It can replace brass where corrosion is no factor.

Leaded TS-4140 Modified is a companion lead bearing alloy steel also featuring free machining characteristics. Test indicates that the heat treating characteristics of this alloy, its hardenability and its mechanical properties are not appreciably affected by the lead addition. Super La-Led is available in cold drawn bar stock ranging from ⅜ to 1¼ in. in rounds and ⅜ to 1 in. in hexagons. Leaded TS is made in ⅜ to 3-in. rounds and ⅜ to 1½-in. hexagons.

If you write maker identify as IEN - 11190

VALVE . . Pushbutton design, ¼ in. for pressure to 150 pounds

Source: KING ENGINEERING CORP.
Box 520-A, Ann Arbor, Mich.

Closes when released

Model PV for panel mounting and Model LV to assembly in a ¼-in. pipe line is a new push-button valve with a brass body and stem, bronze spring and neoprene O-rings that take the place of the customary packing. Finish is in dull nickel. Discharge rate is 25 to 35 cfm. at a pressure drop of 100 pounds. Face-to-face dimension is 1¾ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11191

Towsley

INDUSTRIAL FLOOR TRUCKS

for Every Materials Handling Purpose

No. 421. The "50 Line" for department, food stores, supply houses, hotels.

No. 480. "Selector Truck" may be equipped with variety of upper trays, shelves for special application.

No. 509. All steel "All-Welded" general purpose, push handle both ends, adjustable shelves.

No. 791. Side dump with automatic couplers fore and aft for pulling in train.

No. 384. The "200 Line" level top general purpose truck — "All-Welded" steel frame—pipe push handles.

There's an economy-wise, manpower-wise way . . . with Towsley Trucks! If you have a specific handling problem requiring special purpose equipment, let "Towsley give you a lift." For details write for Bulletin No. 50.

No. 786. Trailer type box truck with running gear mounted for perfect trailing.

TOWSLEY TRUCKS, INC., 1756 Elmore St., Cincinnati 23, O

If you write maker identify as IEN - 11192

SOUNDLY ENGINEERED . . .

PRECISION-BUILT

Leach RELAYS . . .

not only meet, but surpass the most stringent requirements!

Always the goal at *Leach* has been to design and manufacture relays that achieve the maximum degree of performance.

Nearly four decades of leadership in providing a complete line of relays for a multitude of applications.

FOR BETTER CONTROLS THROUGH BETTER RELAYS —*Specify Leach*

LEACH RELAY CO.

5915 AVALON BOULEVARD, LOS ANGELES 3, CALIFORNIA

Representatives in Principal Cities of U. S. and Canada

If you write maker identify as IEN - 11193

BOOTS BELLOWS • TUBES

ACUSHNET has developed rubber stocks with properties that permit sustained flexibility at unusually high or low temperatures, and high resistance to fluids, greases and gases. Our precision-molded boots, bellows and tubes give enduring protection to moving parts by excluding dirt, water, oil, etc.,—retaining grease, oil, fuel—or performing both functions at the same time over long periods of flexing.

Send For your copy of the Acushnet Rubber Data Handbook

Acushnet PROCESS COMPANY

All items are made to order

Address correspondence to 760 Belleville Ave., New Bedford, Mass.

If you write maker identify as IEN - 11194

IMMEDIATE DELIVERY Why wait?

A SMALL SIZE, LIGHT WEIGHT, CONSTANT PRESSURE, SLIP CLUTCH, D. C. GENERATOR TYPE INSULATION TESTER

. . . but with long scale as in large instruments at a LOW PRICE WHY PAY MORE?

New "MAJOR" MEGOHMER

RANGE: 0-50 MEGOHMS WITH EXTRA OHM SCALE
0-10,000 OHMS
OR 0-30 OHMS

True ohmmeter movement independent of generator voltage. Furnished with leather carrying case and 6 ft. test leads.

Write for Bulletin 465

HERMAN H. STICHT CO., INC.
27 PARK PLACE, NEW YORK 7, N. Y.

If you write maker identify as IEN - 11195

AA-351

Camachine®

SLITTERS AND ROLL WINDERS

If you want fast, low cost production of top-quality rolls of paper, plastics, textiles, rubber, and other plain, coated, laminated or tacky-surfaced materials . . . it will pay you to investigate Camachines!

26-3A, a popular CAMACHINE featuring differential rewinding and positive roll separation. Rolls produced on the 26-3A are ideal for further processing, or for consumer use.

Bulletin 1010 will be sent on request

Cameron Machine Company • 61 Poplar Street • Brooklyn 2, N. Y.

If you write maker identify as IEN - 11196

- ☐ Deburring
- ☐ Surface finishing, lubrication control
- ☐ Removing heat treat scale
- ☐ Preparing surfaces for electroplating
- ☐ Removing and blending grinding lines
- ☐ Finishing threaded sections for fit
- ☐ Improving die manufacturing and maintenance
- ☐ Improving cutting tool life and appearance
- ☐ General maintenance cleaning

The amazing versatility of Hydro-Finish, Pangborn's modified form of impact blasting using an abrasive suspended in liquid, will solve these and other problems for you! By varying abrasive size and hardness, air pressure, distance from work, and ratio of liquid to abrasive, almost any type of precision finishing can be accomplished faster and better!

For example, with Hydro-Finish on your production line, surfaces hold electroplating better . . . paints, rubber and plastics are bonded better because Hydro-Finish forms a "tooth" on your work. Threaded pieces turn more easily. Dies are cleaned better, surfaces are improved, production is speeded, and tools last longer.

Get the facts! Write today for Bulletin 1400A and learn how Hydro-Finish can help you! Address: PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

Pangborn

BLAST CLEANS CHEAPER
with the right equipment for every job

If you write maker identify as IEN - 11198

ELEVATOR . . Hydraulic ramp extends, retracts in shipping platform

Source: BEACON MACHINERY INC.
P. O. Box 188-A, Dept. B, East St. Louis, Ill.

To load and unload smoothly

The main portion of this new two-part ramp consists of a structural frame to assemble in a pit cut into a shipping platform, the pit measuring 72 in. in width by 82 in. in length. The frame carries a ramp hinged at the rear end and connected through linkage to a hydraulic cylinder so its outer end can be raised and lowered through a total travel of 24 inches. This travel can be set for any amount above and below the level of the platform. The ramp is brought to flush position with the top surface and with the outer platform edge when it is not in use.

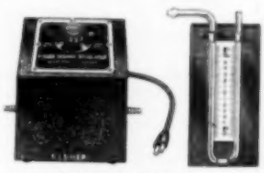
Within the main ramp is a second sliding ramp also operated by a hydraulic cylinder. It can be slid out through a distance of 48 in. or retracted to lie wholly within the main unit. This outer section is equipped with an apron to run loads smoothly between the shipping platform and a car or truck.

Complete equipment includes a hydraulic power unit with electric push button control for operation of the elevating and extending or retracting cylinders. Load capacity is 6 ton. The assembly meets specifications set up by the railroads and the switchmen's union to lie flush with the top and edge of a shipping platform during switching operations.

If you write maker identify as IEN - 11199

TESTING . . Burner control for ASTM Ring and Ball procedures

Source: FISHER SCIENTIFIC CO.
719 Forbes St., Pittsburgh 19, Pa.



Releases operator

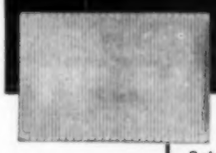
Fisher-Kermac is a new synchronous motor operated pressure regulator which the company has developed for use in connection with the ASTM Ring and Ball softening point determinations for bituminous materials. The regulator increases gas supply to the burner employed in heating the test bath to compensate for increasing heat loss as bath temperature increases.

In each case a suitable burner is selected and adjusted to supply the heat initially required. The regulator adds the extra heat by increasing the gas pressure as the test proceeds. Correct setting can be made after the operator carries out a series of tests by a manometer supplied with the regulator.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11200

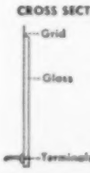
Uniform, Clean, Heat from Glass Plates!



RA-GRID HEATER PLATE

9 sizes: ranging from 6 x 14" to 16 x 28"
Thickness: ¼" **Heat:** Up to 300° F.
Voltage: 230 max. for 16 x 24" plates
Connections: Two terminals for connection of wires

CROSS SECTION



Here is pure, uniform electrical heat—radiated from a pane of glass!

Smokeless, dustless, flameless radiant heat from a paper-thin aluminum grid fused to the back of a strong, tempered glass panel. Think of the places in your production process—in your *product itself*—where heating or drying can be done faster, easier, safer, cheaper with this remarkable new unit. Want to know more? Send today for our technical folder. Write to Dept. IEN-10.

RA-GRID HEATER PLATES

BLUE RIDGE GLASS CORPORATION • KINGSPORT, TENN.

If you write maker identify as IEN - 11201

Save Control Wiring Space

CURTIS Types "M" and "MT" BLOCKS

TYPE:
Built-up — factory assembled in any number of terminals from 1 to 24.

TERMINALS:
Screw type. Type "M" furnished without marker strips. Type "MT" with marker strips.

RATED:
For circuits carrying up to 300 Volts, 15 Amps.

CONSTRUCTION:
Each block is individually molded (solid) providing ample insulation to metal mounting channel.

Write for Bulletin DS-119. For quick reference consult our condensed catalog in the McGraw-Hill Electrical Catalog for Production Engineers.

CURTIS DEVELOPMENT & MFG. CO.
3214 NORTH 33rd STREET MILWAUKEE 16, WISCONSIN

If you write maker identify as IEN - 11202

meet AIR DEMANDS economically

with O-CE COMPRESSORS, built for continuous, heavy-duty operation — in sizes up to 2,000 hp., for pressures to 5,000 lbs. Horizontal, double-acting, water-cooled, these compressors are unsurpassed for dependable, low-cost performance. Roller bearings throughout; quick-acting Simplate valves; large stream-lined air passages; CP Multi-Step Control; CP Automatic Starting Unloader completely unloads compressor when starting and stopping, permits automatic restarting after power failure. Write for full information.

CHICAGO PNEUMATIC TOOL COMPANY
General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

If you write maker identify as IEN - 11203

FLOORING PROBLEMS?.....

solve them once and for all!

SEND TODAY FOR YOUR FREE COPY

INSTRUCTIONS for laying KLEMP HEXTEEL and FLOORSTEEL

the miracle floor base that adds years of life!

When mastic or concrete is poured into the mesh of either of these rugged floor armors, industries are constantly writing "period" to previous flooring problems. Truck wheel pounding doesn't break up a Klemp armored floor!

The Klemp instruction booklet is written to help you make a thorough analysis of your own particular flooring problems. Before making further arrangements, take advantage of Klemp's free engineering services. Many nationally known companies have followed this practice, and, as a result, floors reinforced with HEXTEEL or FLOORSTEEL are still in perfect condition after 25 years.

HEXTEEL®

FLOORSTEEL®

KLEMP

KLEMP METAL GRATING CORP.
Executive Offices: 1375 North Branch Street, Chicago 22, Illinois

If you write maker identify as IEN-11204

CAL-WIC WIRE CLOTH

THE RIGHT WEAVE

• • • for every industrial requirement including screening, filtering, grading, cleaning and numerous other types of processing.

THE RIGHT WEIGHT

• • • precision-fabricated for long-lasting dependability and economy.

THE RIGHT METAL

• • • for highest resistance to chemical action, moisture, corrosion, abrasion and extremes of temperature.

For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

CAL-WIC CFI
INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

If you write maker identify as IEN-11205

B.F.Goodrich

industrial tires save with every turn of the wheel

Do you have maintainability problems?

Know how to save on trailer tires?

Free TIRE AND WHEEL T&W ANALYSIS may save you up to 50%

● No matter what materials handling problems you have involving tires and wheels, you can get expert advice and assistance that will save you money. Under the B. F. Goodrich T&W (tire and wheel) Analysis Plan, a man trained in this work analyzes your operation. He carefully notes the type of equipment, loads, speeds, hauling surfaces and any unusual problems involved. Then he makes recommendations as to the right type, size, tread compound and tread design best suited for your job. He makes suggestions on maintenance.

Because B. F. Goodrich makes a *complete* line of tires—solids, pneumatics and semi-pneumatics—and offers a wide range of tread designs and compounds, his advice is impartial—unbiased.

Why not take advantage of this service without any obligation? Send in the coupon or call your B. F. Goodrich dealer. BFG dealers sell and service a complete line of industrial tires.

A special T&W Analysis Plan is available for manufacturers of industrial hauling equipment.

The B. F. Goodrich Co.
Department TW-205
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

Name_____
Title_____
Company_____
City_____ State_____

B.F.Goodrich

If you write maker identify as IEN-11207

RELAY . . Six pole double throw, hermetically sealed, for aircraft use

Source: RADIO CORP. OF AMERICA
413-17 S. 5th St., Harrison, N. J.

Nothing can enter

RCA-203W1 is a new moisture-free gas filled hermetically sealed relay featuring small size and compact construction. The unit employs palladium contacts and is designed for continuing service under extremes of temperature, humidity, shock, vibration and voltage variation. Weight is 3 ounces.

The unit will operate in any position. Its contacts will handle 2 amp. with resistive load at 26.5 volts dc. It will handle 1 amp. with an inductive load at the same voltage. The contacts are arranged in a break-before-make sequence. The housing measures about 1¼ in. in diameter by the same height.

If you write maker identify as IEN-11208

LUBRICATING . . Viscous liquid for die casting machine plungers

Source: G. W. SMITH & SONS INC.
5410 Kemp Road, Dayton 3, Ohio

Packaged quantity
1 to 55 gallons

Plunger Slick trade names a new lubricant added to the company's previously developed lines for use in die casting machines. The new material applies on the plunger of a cold chamber machine. It plates the plunger and the cylinder wall with a film that prevents galling and sticking and that will not run off at high temperature. The lubricant also protects plunger and cylinder against corrosive action of molten aluminum. It is clean and will not stain.

If you write maker identify as IEN-11209

HANDLING . . Pipe nipple box holds supply of 1 to 2 in. nipples

Source: THON'S TWO-FACED TOTERS
114-A E. Broadway, Owatonna, Minn.

About $10

Covers on opposite faces of this new 20-gage steel box are mounted on piano type hinges and are equipped with latches the same as in the similar unit previously described IEN-10019-52. The new unit is designed to carry 1 to 2-in. nipples. It provides 10 compartments for this purpose, 5 on each side.

"Close" through 3½ in. in length is carried on one side and 4 to 6 in. on the other. Dotted lines, shown in the illustration, indicate the location of the partitions. Nipples made of 1½ in. pipe can be nested inside the 2-in. units.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11210

YOU CAN USE THIS HYDRAULIC HAND PUMP

Meets Aircraft, Ordnance and Domestic Specifications

ALUMINUM BODY — STAINLESS PISTON AND WORKING PARTS

★ Double Check Valve Holds Pressure At Any Position of Handle.
★ Pre-Set or Adjustable By-Pass or Pressure Relief Valve.
★ Equipped With Either Stem, Socket, or Extension Type Operating Handle.
★ Available In Two Standard Sizes, or to Your Special Specifications. Write for Quotation.

ALTEN
—ALTEN—
Foundry & Machine Works, Inc.
LANCASTER, OHIO

If you write maker identify as IEN-11211

FOR *Strictly* IMPERSONAL INSPECTION CHOOSE AMES DIAL COMPARATORS

Ames Dial Comparators make the inspection of duplicate parts an extremely simple, rapid and accurate operation. Ames Comparators are strictly impersonal in their accuracy – the results being in no way dependent on the skill or judgment of the operator. The pressure of the gauging members against the work is mechanically determined and therefore uniform.

Check the Ames Dial Comparators shown – one of them may solve a Quality Control problem for you.

Ames No. 1 is an easily adjustable bench model dial comparator that measures objects up to 2" in cross section. This comparator is designated *Ames No. 1W* when equipped with a dead-weight and contact to ASTM specifications for measuring resilient materials.

Ames No. 2 is a compact bench model dial comparator for measuring sheet metal, glass, hard rubber. *Ames No. 2W* is similar, but is furnished with dead-weights and contacts to ASTM specifications for checking textiles, plastics, sheet rubber, etc.

Ames No. 13 features flat-ground, cast-iron base of ample size for using V-blocks and locating fixtures. The No. 13 can be fitted with a fine adjustment for close setting. Adjustable bracket holds any Ames Indicator.

Ames No. 130 is designed especially for inspecting comparatively large and odd-shaped parts. For this reason, the flat-ground steel base, the adjustable indicator support, and the upright column are proportioned to the user's requirements.

Send us your Quality Control job specifications, and we will supply complete details and proposal without obligation.

Representatives in principal cities **B. C. AMES CO.** 27 Ames Street, Waltham 54, Mass.
Mfgs. of Micromeller Dial Gauges • Micrometer Dial Indicators

If you write maker identify as IEN-11212

WALKS • DRIVEWAYS • PLATFORMS

Cleared FAST with the **jari** ROTARY SNOW PLOW

SELF-PROPELLED • LIGHT • POWERFUL

Guaranteed Results!

Cut snow removal from hours to minutes around your plant with this handy, efficient Jari, Jr. Rotary Snow Plow for walks and driveways. It's self-propelled, and fast . . . clears 4500 sq. ft. and handles up to 18 tons of snow . . . per hour!

SPECIFICATIONS: 2-wheel drive, self-propelled with positive forward movement. Easy starting 1½ hp. gasoline engine, independent clutch. Clears a clean 16-inch path. Rotary rake chews hardened snow for easy removal. Adjustable casting chute. Weighs only 129 lbs. Extra attachments: 28" sickle bar or 20" reel for use as a power mower.

At your dealer or write to
JARI PRODUCTS, INCORPORATED
2938J Pillsbury Ave. Minneapolis 8, Minnesota

If you write maker identify as IEN-11213

HOW TO SATISFY A CUSTOMER

Package your products in Lermer Plastic durable, handsome containers. They are shatterproof, 75% lighter than glass, available clear or opaque in many colors, can be printed or decorated and are available with metal or plastic closures. Write for complete catalog information and samples. If possible, send along products for particular suggestions.

LERMER PLASTICS, INC.
Pioneers and Pacesetters in Plastic Packaging
518 South Ave., Garwood, New Jersey

If you write maker identify as IEN-11214

NEW INDUSTRIAL HUMIDIFIER

BAHNSON TYPE E Self-Contained Unit Humidifier

Requires only water supply and electrical connection

NOTE THESE FEATURES!

- HIGH CAPACITY—Evaporates 3 gallons per hour with ¼ HP motor.
- AUTOMATICALLY CONTROLLED at any desired relative humidity.
- SIMPLE TO INSTALL—Just uncrate and suspend from ceiling.
- ELECTRIC MOTORS for all common current characteristics.
- WATER SUPPLY connection for ¼" tube or ⅛" pipe provided.
- NEEDS NO pump, duct, compressed air, steam, drain or floor space.
- EFFICIENT centrifugal atomization of ordinary city water.
- TWO MODELS, ¼ HP for high capacity, ⅛ HP for small rooms.

FOR COMPLETE HUMIDIFICATION SYSTEMS, FOR BOOSTING, FOR SPOT HUMIDIFICATION, FOR LABORATORIES

FOR TRULY DEPENDABLE LOW-COST HUMIDIFICATION *Bahnson Company* ENGINEERS AND MANUFACTURERS WINSTON-SALEM, N. C.

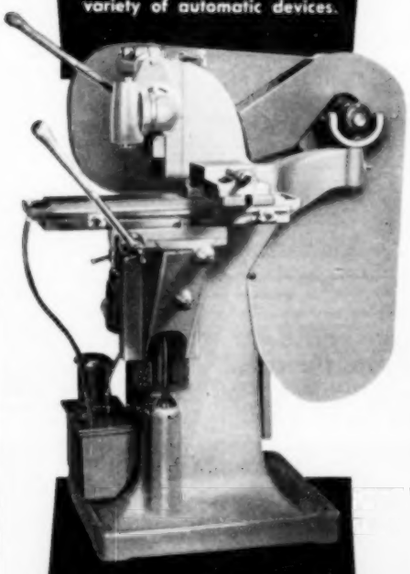
If you write maker identify as IEN-11215

Equally Economical and Efficient

for one-of-a-kind or a million of the same milling operations

U.S. NO. 1

ALL-PURPOSE, HAND-FEED MILLING MACHINES are adaptable to specialized production jobs with a variety of automatic devices.



Our suggestions as to how a U. S. No. 1 Milling Machine can cut costs on your particular production needs, as well as complete data on the basic machine and attachments, gladly furnished on request.

United States MACHINE TOOL CO.

A Division of U. S.-BURKE MACHINE TOOL CO.
BROTHERTON ROAD 5, CINCINNATI 27, OHIO

If you write maker identify as IEN-11217

DRILLING . . Pneumatic tool includes screw drivers and grinders

Source: INDEPENDENT PNEUMATIC TOOL CO. 173-77 N. State St., Aurora, Ill.

Ask for Bulletin B-1282

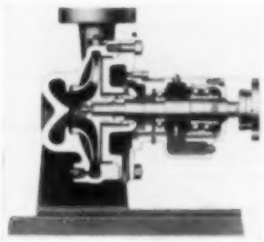
Eighty-five individual sizes are cataloged in the company's new Series-2 Thor non-reversible rotary pneumatic tools. They include drills rating to ¼ in. in aluminum, screw drivers and nut setters with capacities to drive ¼-in. machine screws and grinders to take vitrified wheels to 1½ in. in diameter by ½ in. in width. The line includes attachments for angle and off-set work with chucks or collets as standard equipment to suit the application.

Construction includes aluminum cylinder housings and throttle heads, ball bearing spindle support, thumb, lever or trigger control. Operation is characterized by quiet exhaust of the compressed air. In the gear assemblies the rotor pinion and idler or planet gears are made of heat treated alloy steel. The idler gears are mounted on bronze bushings that turn on both the inner and outer surfaces.

If you write maker identify as IEN-11218

PUMP . . Single stage centrifugal, mechanical seal replaces shaft packing

Source: INGERSOLL-RAND CO. 11 Broadway, Dept. C.A.M., New York 4, N. Y.



Ask for Bulletin 7094-A

Class SFLA designates a new line of single stage centrifugal pumps to handle light process liquids at pressures to 600 lb. and temperature to 250 deg. F. The line includes five sizes from 1 to 4 in. with liquid capacities to 1,000 gpm. Construction is featured by application of the company's Cameron mechanical shaft seal as standard equipment in place of the usual packing, by the use of a balanced impeller with double renewable wear rings at the suction side and back ribs to minimize pressure in the seal chamber. Back of the seal is a Neoprene shaft closure to prevent leakage into or out of the bearing housing which encloses single and double row ring oiled ball bearings.

The pump housing can be separated from the assembly that encloses the bearings and the seal so this assembly complete with the shaft and impeller can be withdrawn as a unit. Special materials of construction can be specified to handle corrosive liquids.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11219

LATEST "NEWS"

in Steam, Electric, Mechanical **POWER**

NEW EQUIPMENT MATERIALS METHODS APPLICATIONS

PRODUCTION DISTRIBUTION INSTALLATION MAINTENANCE **IDEAS**

See and Learn about 317 different kinds of equipment, materials and methods for power production and use in all industries. Get helpful ideas to cope with today's tough problems, and your future plans.

PLAN TO ATTEND—
to get months AHEAD *in 6 days*

20th NATIONAL POWER SHOW

National Exposition of Power & Mechanical Engineering

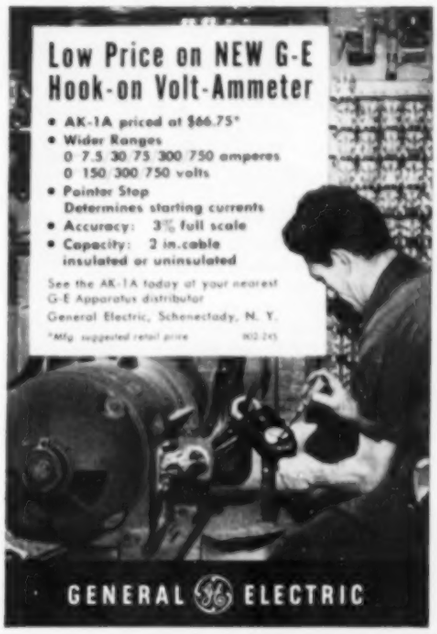
GRAND CENTRAL PALACE, N. Y.

DEC. 1-6

ASME Auspices in conjunction with Annual Meeting

MANAGEMENT INTERNATIONAL EXPOSITION CO

If you write maker identify as IEN-11220



Low Price on NEW G-E Hook-on Volt-Ammeter

- AK-1A priced at $66.75*
- Wider Ranges
  0 7.5 30 75 300 750 amperes
  0 150 300 750 volts
- Pointer Stop
  Determines starting currents
- Accuracy: 3% full scale
- Capacity: 2 in. cable insulated or uninsulated

See the AK-1A today at your nearest G-E Apparatus distributor

General Electric, Schenectady, N. Y.

*Mfg. suggested retail price (KI-21)

GENERAL ELECTRIC

If you write maker identify as IEN-11221

A FURNACE ON WHEELS FOR YOUR PLANT!

● You can avoid layoffs, speed work in cold areas, provide temporary heat for warehouses with Herman Nelson Portable Heaters. They also provide auxiliary heating for those extra cold days or during loading or unloading operations and for scores of other heating and drying jobs.

HERMAN NELSON ECONOMY MODEL

Priced lower for the smaller jobs. Capacity 125,000-190,000 BTU/hr. Oil fired, electric powered. Costs only 19¢ per hour to operate. Other models available—electric or gasoline powered with capacities to 450,000 BTU/hr.

The only completely safe portable heater that uses flexible ducts to spot heat where most needed—and remember, only uncontaminated air heaters are absolutely safe!

Models as low as $360.00—total cost often saved during first season. For full information, write Dept 102, Herman Nelson Division, American Air Filter Company, Inc., Moline, Illinois.

If you write maker identify as IEN-11222

HARPER HAS THEM!

Everlasting Fastenings by the Dozen or the Million!

- Specialists in bolts, screws, nuts, rivets, washers and fastening accessories!
- In brass, bronze, copper, aluminum, stainless steels, Monel!
- For all problems involving corrosion, heat, abrasion, stress, appearance!
- America's largest producer of non-corrosive fastenings!
- Larger stocks, greater selection—over 7000 items!
- Deliveries from nearby warehouse and distributor stocks!
- Ask for complete Harper Price List and Stock Book!

HARPER

EVERLASTING FASTENINGS

The H. M. Harper Company
8211 Lehigh Ave.
Morton Grove, Ill.
Rush Harper Price List and Stock Book.

Name.....
Address.....
City.....State.....

If you write maker identify as IEN - 11223

NAME THE ALUMINUM SHAPE YOU NEED

Here's a good, dependable source for aluminum extrusions in quantity. Send us your inquiry with adequate information and we will answer promptly. Whatever aluminum shape you need for your product or contract, Youngstown Manufacturing, Inc., can supply. Write, wire or phone.

BUY FROM THE *Big Name* IN THE *Aluminum Extrusion* BUSINESS

YOUNGSTOWN MANUFACTURING, INC.
66-76 South Prospect Street
Youngstown 6, Ohio

SUPERIOR ALUMINUM EXTRUSIONS

If you write maker identify as IEN - 11224

BARRETT STEELEG SKIDS
Platform • Box • Stake Types
BUILT TO LAST

Barrett Box-Top Skid for bulk loading. Can be nested. Various heights. Special types available.

Barrett Stake Skid for pipe, lumber, steel bar stock. Stakes removable.

Barrett Skids are built to take heavy, slam-bang abuse year after year. High carbon manganese steel angles (50% stronger than mild steel) prevent deflection . . . no sagging skids to hamper lift-truck operations. Iron-bound hardwood top boards. All parts easily replaceable. Forged steel legs. Broad bearing surface protects floors. Any size, any capacity for hand or electric lift-truck operation. *For complete details get Bulletin 4882.*

BARRETT-CRAVENS COMPANY
4641 S. Western Blvd., Chicago 9, Ill.
Representatives in All Principal Cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Can.

BARRETT
One man does more than 3 or 4 . . . with a Barrett

If you write maker identify as IEN - 11225

FREE

IF YOU PRODUCE PARTS THAT REQUIRE FINISHING OF ANY KIND

This amazing 22-page booklet is *guaranteed* to open your eyes! Gives latest, up-to-the-minute facts—figures—photos on advanced barrel finishing. Shows how single unit installation replaces from 2 to 12 men—savings *up to* 95% on almost all types of parts from large castings to small intricate parts.

Investigate today! Send for your FREE copy of Booklet No. G-8 today.

ALNCO Supersheen
AMERICA'S LARGEST MANUFACTURER OF ADVANCED BARREL FINISHING EQUIPMENT—MATERIALS AND COMPOUNDS
ALBERT LEA, MINNESOTA

If you write maker identify as IEN - 11226

VENTILATING . . Centrifugal blower, non-overloading design, to 600,000 cfm.

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., Dept. IEN, Room 1110, Pittsburgh 30, Pa.

Illustrated is the impeller in the company's new line of centrifugal blowers designed for ventilating and air conditioning installations. The unit is characterized by its quiet operation and its non-overloading ability. It is available in wheel sizes from about 40 to 109 inches. Mechanical efficiency tests at 92 per cent.

If you write maker identify as IEN - 11227

CORROSION PROOFING . . Liquid stops finger print stains on metal

Source: GULF OIL CO.
352-SB Gulf Bldg., Pittsburgh 30, Pa.

Makes work immune to worker contact

No-Rust FPR is a new petroleum base liquid developed for application on freshly machined metal surfaces where fine finish and close tolerance must be protected against the corroding action of body acids and perspiration during handling operations. Anti-friction bearings, instrument parts, precision products are examples. Application can be made on brass, cadmium, copper, magnesium, steel, zinc by dipping, flooding or spraying.

The liquid will displace a water film by preferential wetting. It will remove cutting and grinding compounds, perspiration residues. It leaves a thin colorless film for temporary protection. This film can be removed by application of a petroleum solvent when the part or equipment is to be used.

If you write maker identify as IEN - 11228

PIPE FITTING . . Forged steel union, 1/2 to 2 in., integral steel seat

Source: CAPITOL MFG. & SUPPLY CO.
155 W. Fulton St., Columbus 16, Ohio

Makes steel to steel connection

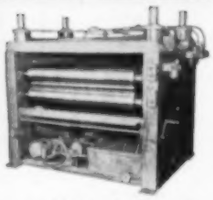
Section detail illustrates seat construction in this new steel union which the company has added to its brass seat unit, previously described IEN-13121-51. The new design is rated for 300-lb. steam pressure, 2,000-lb. cold water, oil or gas pressure in non-shock service. It can be zinc coated or supplied in a black rust resistant finish. The seat connection is ground after machining.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11229

UNION AUTOMATIC COMPOUND SPREADERS

SAVE *8 WAYS



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.
Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

UNION TOOL CORP.
316 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

If you write maker identify as IEN - 11230

FOR A TOUGH NUT THERE'S NOTHING LIKE TASGON

Tasgon is your quickest, most penetrating rust solvent! Cuts through rust, gummed up oil and grease, hardened paint . . . loosens rusty or frozen nuts, bolts, couplings, fittings, any metal connections. Saves time, labor, and broken parts.

Tasgon comes in convenient 3 oz. cans for mechanics tool kits and in pints, quarts and gallons for shop and field use.

Write Today for a free sample can of Tasgon.

Samuel Cabot Inc.
1033 Oliver Bldg., Boston 9, Mass.

If you write maker identify as IEN - 11231

ORANGEVILLE HAND TRUCKS

"Keeps Loads Alive"

Illustrated are a few of the many hand trucks we make for factory and warehouse use. They are typical of a wide range of available types and sizes which we can furnish in two-wheel and four-wheel designs. We also build special trucks to order to meet unusual handling needs.

Write for Catalog 50

FLOOR TRUCKS ORANGEVILLE

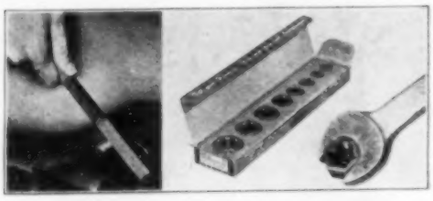
ORANGEVILLE MFG. CO.
ORANGEVILLE 15, PA.
Established 1879

If you write maker identify as IEN - 11232

THREAD RESTORERS

"NU-THRED" FILES
For restoring damaged threads on any diameter bolt, stud, axle, or shaft.

RETHREADER DIES
For renewing damaged threads in close clearances. Same Size as the nut!



NU-THRED FILES — TWO SIZES

No. 1 — for 11, 12, 13, 14, 16, 18, 20 and 24 threads per inch ..... $2.50 each
No. 2 — for 9, 10, 12, 16, 20, 27, 28 and 32 threads per inch ..... $2.50 each

RETHREADER DIES — TWO KITS

No. U-7 — for USS 3/4-20 to 3/4-10 threads, seven sizes ..... $3.50 per kit
No. S-8 — for SAE 3/4-28 to 3/4-16 threads, eight sizes ..... $3.50 per kit

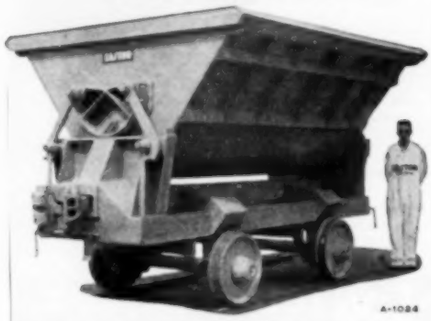
(Sent Post Paid—Satisfaction Guaranteed)

JAW MANUFACTURING CO.
37-43 Mulberry St., Reading, Pa.

If you write maker identify as IEN - 11233

EASTON

a dependable design and construction service in industrial cars



A-1024

EASTON CAR & CONSTRUCTION CO. • EASTON, PA.
NEW YORK • PHILADELPHIA • PITTSBURGH

If you write maker identify as IEN - 11234

Sign of Dependability

Dependability . . . the kind you get from the high-tensile strength fabric and the rugged, tight-grip adhesive of U.S. Security Tape. What is more, Security has high dielectric strength, is straight-tearing, non-ravelling, has no pinholes to cause troublesome leaks.

U. S. Security Rubber Tape is unbeatable for perfect splicing when used with U.S. Security Friction Tape.

Quality Products of

U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
Tape Department, Rockefeller Center, New York 20, N. Y.

If you write maker identify as IEN - 11236

GAGE . . Measuring microscope combines 50X lens and engraved scale

Source: NATIONAL INSTRUMENT CO.
5003-7 Queensbury Ave., Baltimore 15, Md.

List is $19.50 in a leather case

Optometer trade names a new 50X microscope that reads direct on its engraved scale in 0.002-in. divisions. These divisions are spaced so estimate can be made to 0.0005 inch. The lenses are corrected for color and spherical aberration to provide a sharp image to the edge of the field of vision. The gage is about the same size as a fountain pen.

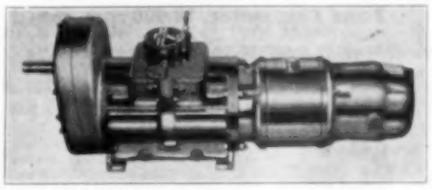
Applications include examination of parts for cracks, blow holes and other surface imperfections, checking of plated parts for irregular deposits, pitting, cracks and blisters, identification of fiber textures, distribution of coloring matter and sizing in paper manufacture, weave and twist and measurement of individual fibers in textile work.

The instrument is placed on the surface of the work to be inspected and a light is directed obliquely toward its tapered opening. The focusing knob on the side of the barrel is then moved to a position where vision is clear and linear dimension is read on the graduated scale.

If you write maker identify as IEN - 11237

DRIVE . . Variable speed unit, 1/4 to 3 hp., brake equipped motor

Source: GRAHAM TRANSMISSIONS INC.
3756 N. Holton St., Milwaukee 12, Wis.



The 2 and 3 hp. assembly is illustrated

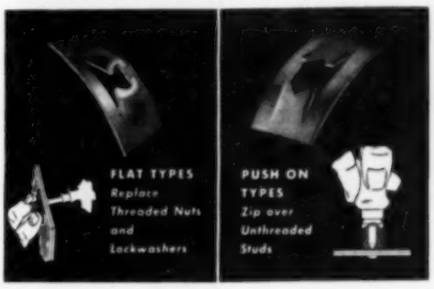
New assembly of the company's stepless variable speed drive includes a motor with a built-in brake to provide for quick stopping as in drives for indexing and positioning operations. Output speed is adjusted, as in previous standard designs by the company, by turning a crank on the top of the housing to position a ring axially on a tapered cone in the transmission housing. Output can be taken directly from the transmission shaft or can be specified to include additional gearing.

The new brake is direct acting disc design with magnetic operation so the brake is released when the motor circuit is closed and is energized when the circuit is open. Releasing action is by magnets. Brake application is by springs built into the assembly. Motor and brake apply on the standard variable speed transmission in sizes from 1/4 to 3 hp.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

If you write maker identify as IEN - 11238

TINNERMAN *Speed Nuts*®...
"TOPS" in Production Time-Savers!



FASTER, EASIER TO APPLY IN ASSEMBLY!

Whatever you make, or assemble, there's a SPEED NUT way to faster, less costly attachments in production! Industry's leaders in nearly every field have turned to TINNERMAN for better fastening engineering . . . lower production costs! Call your Tinnerman representative for data on our FREE Fastening Analysis service, or write to:

TINNERMAN PRODUCTS, INC.
Dept. 12, Box 6688, Cleveland 1, Ohio

If you write maker identify as IEN - 11239

SAWZALL
Wonder-Saw
with 101 Money-Saving uses

Opens toughest crates in a jiffy.

Complete power-unit . . . one-hand control . . . 3/4" stroke . . . 6 saw blades for wood, metals, transite, plaster board, plastics . . . in steel carrying case **$78.50**

Rugged, powerful — 2250 strokes per minute — weighs only 6 3/4 lbs.—14 1/4" long—life-time lubricated motor and mechanism. See your distributor or write . . .

MILWAUKEE ELECTRIC TOOL CORP.
5360 West State Street, Milwaukee 8, Wisconsin

Milwaukee **SAWZALL**
All-purpose
Portable Electric Hacksaw

If you write maker identify as IEN - 11240

CASTELL
PUSH BUTTON **LOCKTITE**

the perfectly balanced holder
(black or colored)

An indispensable drawing tool for professional men everywhere — because LOCKTITE holds lead in bulldog grip, prevents it sliding back into holder. Reduces smearing and smudging, because your fingers never touch the graphite, except when refilling. Order from your Dealer today.

No. 9030
CASTELL
Refill
IMPORTED
Master Degree Leads
7H to 9H

Reproduces more clean, sharp blueprints than any other lead.

The same wonderful imported leads that you get in the CASTELL wood pencil. Usable in all standard holders. Also available in red, blue, green, yellow, carmine, orange, white and silver.

A.W. FABER-CASTELL
PENCIL COMPANY, INC., NEWARK, N. J.

CASTELL
the drawing pencil with the Master Degrees

If you write maker identify as IEN - 11241

Over 85% of the torque wrenches used in industry are

Sturtevant
TORQUE WRENCHES
Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

in inch ounces
...inch pounds
...foot pounds
(All sizes from 0-6000 ft. lbs.)

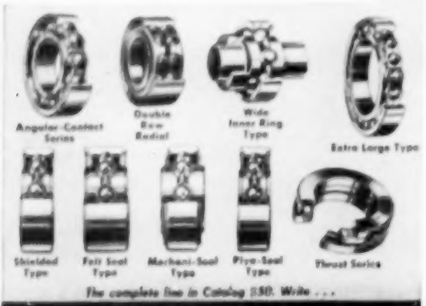
Every manufacturer, design and production man should have this valuable data. Sent upon request.

PA STURTEVANT CO
ADDISON QUALITY ILLINOIS

If you write maker identify as IEN - 11242

FAFNIR BALL BEARINGS

THE MOST COMPLETE LINE IN AMERICA



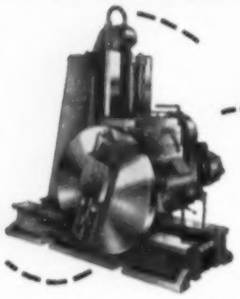
The complete line in Catalog 250. Write . . .

THE FAFNIR BEARING COMPANY
New Britain, Connecticut

If you write maker identify as IEN - 11243

FORNEY

BORING and FACING MACHINE



★ *Boring*
★ *Facing*
★ *Milling*
★ *Tapping*
★ *Drilling*

WRITE FOR NEW BULLETIN

Designed to eliminate conventional overhang for necessary bar travel providing greater resistance to bending stresses when boring — greater rigidity when milling — increased capacity when facing. Numerous applications can be made in boring, facing, drilling, tapping and milling. Duplicator attachments available. Standard model weighs 10,000 pounds.

FORNEY'S INCORPORATED
Manufacturers of Special Machinery Since 1916
ELM ST. NEW CASTLE, PENNSYLVANIA

If you write maker identify as IEN - 11244

Each REZNOR GAS UNIT HEATER IS A COMPLETE HEATING MACHINE

★ NO LOSS from heat transmission
★ MAKES HEAT where you want warmth
★ SPOT LOCATE as many REZNORS as you need (no interconnection)
★ ADD to the system as you want (no leaders to run)

REZNOR IS MODERN . . .

As many diesel locomotives add or subtract power units as power is needed, Reznor units can be put into or withdrawn from service as heat is needed. REZNOR is efficient. REZNORS install quickly. Before you install any heating—primary or auxiliary, check REZNOR.

REZNOR
WORLD'S LARGEST-SELLING GAS UNIT HEATER

REZNOR MANUFACTURING CO.
10 UNION ST. • MERCER, PENNA.
Send me 20-page catalog in full color

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

If you write maker identify as IEN - 11245

TRUCK . . Power lift and travel, pallet and platform units, 2 and 3 ton

Source: LEWIS-SHEPARD PRODUCTS INC.
190 Walnut St., Dept. R-1, Watertown 72, Mass.

Ask for Catalog 34

New design of the company's Jacklift electric low lift truck now provides for operation with the steering handle vertical as well as in any other position. It is not necessary to extend it downward to disengage the brake and operate the controls. From 6 to 9 in. of aisle space are thus saved as compared with the initial design.

To stop the truck the operator releases his hand pressure on the handle "trigger" for quick cushioned braking. The new assembly also employs time controlled acceleration in which the operator presses the hand control and the drive picks up through its own regulated control.

The vertical swivel head at the front encloses a travel drive motor and traction wheel that can be turned for steering through a 200 deg. arc. Power is supplied to the travel motor and to the motor driving the hydraulic pump for platform or pallet lifting action by a storage battery located between the head and the load platform. The compartment takes a standard battery of any one of several makes.

The platform truck is available with 30 to 90-in. platform lengths in 6-in. increments. Width is 18 or 25 in. and lowered height is 6 to 11 in. in several positions. Overall length with a 48-in. platform is 76½ inches. The pallet design is made with 36 to 72-in. fork length in 6-in. increments. It measures 81 in. in overall length with forks measuring 48 inches.

If you write maker identify as IEN - 11246

WOODWORKING . . Portable router, 2 and 3 hp. motor, 18,000 rpm. speed

Source: STANLEY ELECTRIC TOOLS
478-82 Myrtle St., New Britain, Conn.

Aluminum housing

Type R22 and R33 are redesigned units in the company's line of portable motor driven routing equipment, previously described IEN-1771-50. Both are for heavy duty use and are driven by universal motors in permanently sealed ball bearing design. Equipment includes a new type non-slip collet chuck and micrometer depth adjustment.

The motor housing is threaded and carries a graduated metal ring. One complete turn raises or lowers the motor ¼ in. in the base. On both machines the switch has been relocated for operation while retaining a good grip on the guiding handles.

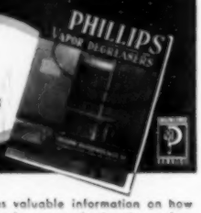
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11247

PHILLIPS

LEARN HOW VAPOR DEGREASING CAN CUT COSTS AND INCREASE YOUR PRODUCTION

SEND FOR YOUR FREE COPY OF PHILLIPS' NEW DEGREASING BULLETIN



HERE's a new bulletin that contains valuable information on how modern vapor degreasing speeds up production in modern factories by making metal cleaning operations faster and more economical. Listed below are some of the features of this new book:

WHAT DEGREASING IS — A full description of what vapor degreasing is and what it will accomplish for you.

HOW DEGREASERS WORK — A series of photographs and written description shows what happens in the degreasing process.

DEGREASER APPLICATIONS — Illustrates number of different applications of degreasers to solve metal cleaning problems in various industries.

COMPLETE LINE OF STANDARD DEGREASERS — Describes Phillips' full line of standard equipment, including batch type, combination, rotomatic, and conveyorized models.

SPECIALLY ENGINEERED UNITS — Tells about Phillips' service in designing special degreasing units for solving unique metal cleaning problems.

Phillips MANUFACTURING COMPANY
3461 Touhy Avenue • Chicago 45, Illinois
Engineered Metal Cleaning Equipment

If you write maker identify as IEN - 11248

HIGH VACUUM
Glass Working and other Laboratory Equipment and Supplies

Send for this valuable bulletin on equipment for industrial plants. Features new glass working apparatus, such as oxygen-gas-hydrogen equipment, gas-air burners and automatic machine burners.

Also gum rubber tubing, hose clamps, vacuum systems and miscellaneous accessories.

You will find this bulletin very helpful—a handy reference book with over 100 illustrations of various items.

MANUFACTURERS RV DISTRIBUTORS
RESEARCH VACUUM SUPPLY COMPANY
Glass Blowing Equipment — High Vacuum Pumps and Accessories
3434 MONTROSE AVENUE • CHICAGO 18, ILLINOIS

If you write maker identify as IEN - 11249

BEARING LIFE EXTENDED 1,013 HRS.

with NEW

ALEMITE OIL-MIST

AUTOMATIC LUBRICATION SYSTEM

BEFORE Oil-Mist: Spindle bearings on a grinder at a leading manufacturing company* were able to operate only 100 hours without replacement. Replacement cost of a complete spindle was $90, or $18 for new bearing replacements. *Plus* 3 hours down time. *Plus* labor costs.

AFTER Oil-Mist: The same grinder has been running 1,113 hours—*and the spindle is operating as satisfactorily as if new bearings had just been installed.* After deducting the cost of Oil-Mist plus installation, this one unit has shown a savings of over $600!

what is... OIL-MIST?

It is a new, unbelievably simple lubrication system that atomizes oil into mist and distributes it through tubing to bearings. Oil-Mist bathes all bearing surfaces with fresh, clean, cool oil film. Uniformly maintains oil film on plain and anti-friction bearings, gears and chains regardless of variations in load, temperature or speed! No "peaks and valleys" of lubrication.

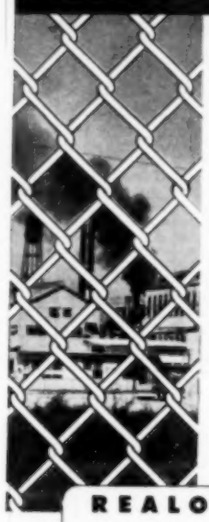
Fully automatic, Oil-Mist eliminates waste and the uncertainties of the "human element." Extends bearing life as much as 17½ times. Seals bearings against dirt and abrasives. Cuts oil consumption as much as 90%. Greatly reduces the number of oils needed.

Get the facts NOW!

Just out! This new catalogue brings you the complete story on Oil-Mist. Specifications, models, typical applications, actual case histories. Get yours now. Write Alemite Division of Stewart Warner, Dept. R-102, 1830 Diversey Parkway, Chicago 14, Illinois
*Name on request

If you write maker identify as IEN-11251

REALOCK FENCE



GIVES *Positive* PROTECTION

Positive protection for your grounds and property is assured with Realock Fence. In addition, all fittings, hinges and locking devices have bolts on the inside, secure from outside tampering.

Noted for its rugged construction and long-lasting weather resistance, Realock Fence can be depended upon for years of dependable, trouble-free service.

For additional information write our nearest sales office or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION
Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION
Oakland, California
WICKWIRE SPENCER STEEL DIVISION
Buffalo, New York

REALOCK FENCE
THE COLORADO FUEL & IRON CORPORATION
CF&I
BRANCHES IN ALL KEY CITIES

If you write maker identify as IEN-11252

Can our product help you improve your product?

This is **INNER-SEAL.** It's extremely durable, extremely effective . . . with many features that eliminate sealing problems in the manufacturing of countless products.

Inner-Seal's bead is of *live sponge rubber* which compresses under pressure, then springs back into shape. Its flange is of *woven spring wire*, tough but flexible enough to fit snugly around corners. Its coating is of *waterproof neoprene* . . . designed for sub-zero or tropical temperatures, sunlight, humidity, grease, oil or abrasion. Available in various dimensions. Standard Inner-Seal in many colors . . . heavy-duty "dumb-bell" type in black . . . special types can be made to order.

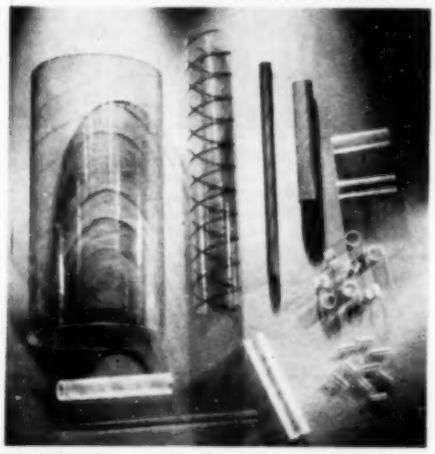
Although Inner-Seal is most widely known in the refrigeration, railway, shipping and automotive fields, it's continually finding many new applications. Maybe you have one . . . maybe we can help!

FREE SAMPLES and complete information. *Write today.*

Bridgeport INNER-SEAL Live Sponge Rubber WEATHER STRIPPING

BRIDGEPORT FABRICS, INC., BRIDGEPORT 1, CONN.

If you write maker identify as IEN-11253



TUBING . . . to your specifications

POLYSTYRENE • POLY-KRAFT • ACETATE
CELLOPHANE • NYLON • NITRATE • FIBER

. . . of any other material that will best suit your purposes and needs.

Accurately made — held within close tolerances

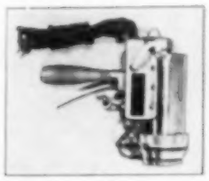
We invite your inquiries

Glassips Inc. Towson 4, Md.

If you write maker identify as IEN-11254

METAL SPRAYING . . Portable gun for metals that melt below 650 deg. F.

Source: COOPER ALLOY FOUNDRY CO.
212 Bloy St., Hillside 5, N. J.



List price is $250

New design of the company's Spray King electrically heated gun, previously described IEN-10554-50, is shown in the illustration. The new unit supersedes the previous design and is suited for intermittent or production spraying. Its cylindrical housing holds about 7 lb. of molten metal for delivery downward through its nozzle upon operating a lever controlled valve that connects to a shop air line supplying 25 to 125-lb. pressure. Both the housing and the nozzle are electrically heated and thermostatically controlled. Weight is about 5 pounds. Operation is on 110-volt input with connection through an extension cord and plug.

If you write maker identify as IEN-11255

METAL . . Zinc alloy sheet in packaged rolls for utility uses

Source: ILLINOIS ZINC CO.
2957-63 W. 47th St., Chicago 32, Ill.

$1 and $2 per roll

The company announces availability of its Eraydo zinc alloy sheet material in two new packaged rolls, each roll containing a piece 12 in. in width by 30 or 60 in. in length. The alloy is not subject to attack by fumes or salt air. It will not corrode when set into the ground in concrete or mortar. No protective coating is required. It can be punched, stamped, drawn, rolled or spun. It is non-magnetic.

If you write maker identify as IEN-11256

HANDLING . . Caster turn table to rotate, advance, retract flat work

Source: SAMUEL OLSON MFG. CO.
2420-22 Bloomingdale Ave., Chicago 47, Ill.

The work swivels

Swivel casters are mounted in rows in inverted position on the steel top of this new table to provide rolling support for flat work placed upon them. The assembly is suited for turning heavy sheets of metal as in transfer between conveyors and machines, to bring the sheets into position for fabricating, to manipulate any heavy objects presenting a flat bottom surface that can ride upon the casters.

The table is available in specified sizes and load carrying capacities with caster wheels made of Neoprene or semi-steel. Alemite lubrication is standard.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11257

Welcome to our new home!

See how you get better service in portable tools from our 25th Anniversary Plant!

You'll be excited too when you see our new home at 26300 Lakeland Blvd. What a set-up to give you better portable tools and better service!

Air conditioned. The whole plant! Clean, dry air for high-precision work. Greater working comfort steps up our service to you . . . in quality and speed.

More production. Modern, top-rated tools and more of them. More space. Good light! . . . 55 foot-candles average.

Fast Service. Greater facilities for application engineering help. Large stock room for fast parts service.

Come see this new plant! Or, write for our circular which tells all about it . . . what it means to you.

AIR O'TOOL and HI-CYCLE O'TOOL

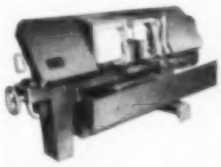
THE ROTOR TOOL CO.
CLEVELAND, OHIO

If you write maker identify as IEN-11258

Kalamazoo

METAL CUTTING BAND SAWS

No stooping, no fumbling . . . just swing saw cover open and everything is at your fingertip. Release blade tension, remove blade, insert new one and tighten. It's as simple as that! Result? Minimum loss of time, less chance of damage to blade and of injury to operator.



This is but one of many exclusive Kalamazoo features that add up to lowest cost intermittent or continuous cutting. It will pay you to specify Kalamazoo Metal Cutting Band Saws . . . three sizes, available with coolant system and casters.

MACHINE TOOL DIVISION

Kalamazoo TANK and SILO CO.
1011 HARRISON ST., KALAMAZOO, MICHIGAN

If you write maker identify as IEN-11259

After years of wear and tear

Drawings are reclaimed without costly retracing

A case history based on the experiences of the Buffovak Equipment Div., Blaw-Knox Corp., Buffalo, N. Y.

When any one of the 80,000 odd drawings in the Buffovak files is incapable of producing the sharp, clean blueprints needed for the shop—there's no redrafting problem.

"New drawings" are made from old ones—quickly, inexpensively with Kodagraph Autopositive Paper.

This revolutionary photographic intermediate material intensifies weak line detail, drops out stains, creases . . . produces fast-printing duplicate originals with dense photographic black lines on a durable, evenly translucent white paper base.

And the job's done at low cost because "Autopositive" is unique—a photographic paper that can be handled in ordinary room light . . . that produces positive copies directly—without a negative step. Also, it can be exposed in standard print-making equipment . . . processed in standard photographic solutions. *Convenience, economy*—from start to finish. And it's the same story in subsequent print production: Autopositive intermediates print back at practical, uniform speeds . . . and produce sparkling prints even after hundreds of "run-throughs."

Kodagraph Autopositive Paper

"THE BIG NEW PLUS"

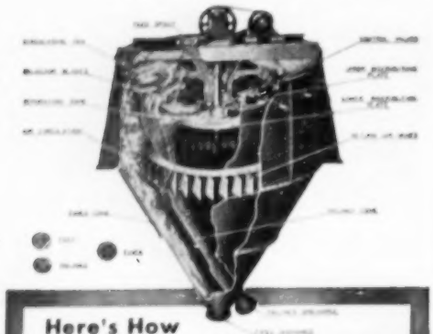
in engineering drawing reproduction

Write today for a free copy of "New Short Cuts and Savings." This interesting, well-illustrated booklet gives complete information on revolutionary Kodagraph Autopositive Paper . . . lists a selection of case histories which illustrates the many ways it is cutting costs in thousands of drafting rooms today.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

If you write maker identify as IEN - 11261



Here's How STURTEVANT Air Separators Increase Production of Fines ...Lower Production Costs

Sturtevant Air Separators effect production savings by increasing output by 25 to 300% . . . reducing power consumption by as much as 50%.

They efficiently carry off all classified materials in any desired fineness from 40 to 325 mesh and finer . . . eliminate the need of screening in certain applications. Capacities available from ¼ to 50 tons per hr. *Write for full details, today.*

Sturtevant Mill Company
113 Clayton Street, Boston 22, Mass.

If you write maker identify as IEN - 11262

USE

RAYMOND

Hydraulic
PALLET LIFT TRUCKS

- Let one man do the work of two men or more with a RAYMOND Hydraulic Pallet Lift Truck. You'll save time, save manpower, save money!
- What's the secret? Hydraulic power does the heavy lifting. Just a few pumps on the foot pedal and your load is set for smooth, easy hauling.
- RAYMOND Pallet Trucks squeeze into tight quarters . . . feature effortless pallet entry. Lightweight model shown here has 2,000 lb. capacity. Also available in Heavy Duty models with 4,000 or 6,000 lb. capacities.

MODEL L2P

DESIGNED FOR FAST HANDLING
RAYMOND Low-Lift Rider-Type Electric Truck. Travels up to 6 mph empty, 5 mph loaded. For long hauls, stock picking, loading, unloading. 4,000 lb. capacity.

RAYMOND
Electric Industrial Trucks
Hydraulic Elevating Equipment

The RAYMOND CORPORATION
Formerly 1930-N Raymond Corporation
3574 Madison Street, Greene, N.Y.

Send for Bulletins

Gentlemen: Please send me Bulletin 707, showing your full line of Hydraulic Lift Trucks. Also Bulletin 750 on your new Low Lift Electric Truck.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

If you write maker identify as IEN - 11264

PRINTING . . Photocopy equipment, exposes, develops, delivers to use

Source: GENERAL PHOTO PRODUCTS CO.
13-17 Summit Ave., Chatham, N. J.

Ready to use as delivered

Illustrated is a new developing and roll-drying machine now available to use with contact printing equipment previously purchased or with this equipment to order to make a complete installation that will expose, develop and deliver prints ready for use. The machine shown is characterized by its ability to develop prints that have been sensitized on one or both sides and put through, in the latter case, with two exposed negatives simultaneously.

Exact Stat is the trade name of the developer and of the sheets of negative and positive sensitized paper required for the process. The developing machine can be supplied for hand operation or for motor drive. It is in three width capacities of 8½, 12 and 17 inches. The fluid is supplied in concentrated form in quart containers. One quart will develop about 300 letter size copies.

Operation starts with the contact printer into which an original and a sheet of the Exact Stat negative paper are placed. The exposed negative is then placed face to face with a sheet of the positive paper and the two are entered through adjacent slots in the developing machine. They pass through the fluid held in the machine and then travel between drying rollers to emerge adhered to each other from a delivery slot at the rear. They are pulled apart and the positive sheet is a photo-exact copy of the original in black on white. Both sides will be printed if the duplex paper has been used with a negative on each side.

If you write maker identify as IEN - 11265

LIGHTING . . Fluorescent fixture, reflector slots pass light and air

Source: WHEELER REFLECTOR CO.
273-77 Congress St., Boston 10, Mass.

Ask for Bulletin 91

Slots cut in the upper portion of the reflector in this new Day-Flo Upliter fluorescent fixture permit about 28 per cent of the total illumination from the unit to pass upward to normally dark areas in a plant. The remaining 72 per cent is directed downward. At the same time the slots provide a means for constant flow of air to circulate through the fixture and continually carry dust away. The lamps are shielded at 35 degrees in cross direction to minimize glare.

The fixture is supplied for individual or continuous mounting on sliding clamp hangers, conduit stems or chain hangers. Single length units take two 40-watt bipin lamps or two 48 or 96-in. T-12 single-pin lamps for operation on 110-volt ac. Double length units take four 40-watt bipin lamps or four 48-in. T-12 single-pin lamps.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11266

HEAVY DUTY ALUMINUM STEP LADDERS

Proven performers in all types of industrial plants. Prized by Contractors for resistance to twist or wobble. An unexcelled value for heavy service.

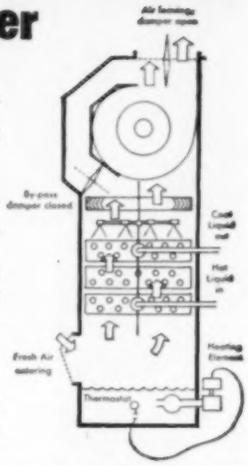
Also complete line of ladders and scaffold planks. Every one tested in service.

LOUISVILLE LADDER COMPANY
1101 W. Oak St. — Dept. BA — Louisville 10, Ky.

If you write maker identify as IEN - 11267

NIAGARA Aero Heat Exchanger

1. Extends quenching capacity without extra water or cooling tower.
2. Quickly pulls down heat at initial peak load of Quenching.
3. "Balanced Wet Bulb" Control holds quench bath at proper temperature, heating if needed to start after shut-down, and cools or heats by automatic control.
4. Saves cleaning expense as compared to cooling tower which picks up acids and fumes from air.



APPLICATIONS
Quench Oils
Cutting Oils
Lubricating Oils
Cooling Water

For help in increasing production, saving of cooling water, write for Bulletin No. 120. Address

NIAGARA BLOWER COMPANY
Over 35 Years of Service in Industrial Air Engineering
Dept. EN, 405 Lexington Ave. New York 17, N. Y.
Experienced District Engineers in all Principal Cities of U. S. and Canada

---

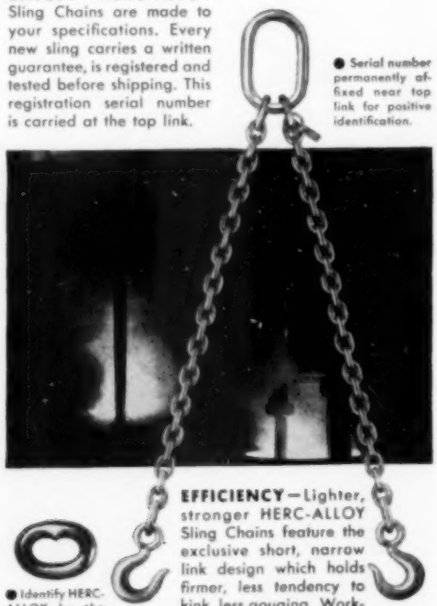
If you write maker identify as IEN - 11268

NONE BETTER...
America's First and Safest

HERC-ALLOY SLING CHAINS

STRENGTH—Size for size, no other sling chain offers a greater tensile strength. HERC-ALLOY will not crystallize—never requires annealing.

SAFETY—HERC-ALLOY Sling Chains are made to your specifications. Every new sling carries a written guarantee, is registered and tested before shipping. This registration serial number is carried at the top link.



● Serial number permanently affixed near top link for positive identification.

● Identify HERC-ALLOY by the patented Inswell side weld with the extra swell of metal on the inside of the link.

EFFICIENCY—Lighter, stronger HERC-ALLOY Sling Chains feature the exclusive short, narrow link design which holds firmer, less tendency to kink, less gouging. Workmen handle HERC-ALLOY with less effort.

PREFERENCE—Men who buy and use sling chains are influenced only by facts learned through experience. HERC-ALLOY Sling Chain preference has been built up over the years, not just by what we say, but by how HERC-ALLOY performs on the job.

Write for Data Book No. 3 which contains much useful manufacturing and application information on HERC-ALLOY Sling Chains.

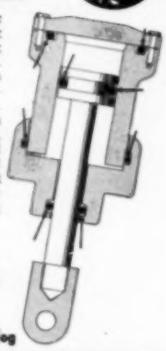
COLUMBUS McKINNON CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corp.)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
District Offices: New York • Chicago • Cleveland
Other Factories at Angola, N. Y., Dixon, Ill., St. Catharines, Ont., Can., and Johannesburg, South Africa.

If you write maker identify as IEN-11270

O-RINGS by INJECTION MOLDING

Dependable Hydraulic Seals

Minnesota O-Rings function in air or gas systems as well as in hydraulic systems. Air cylinders . . . hydraulic valves . . . hoisting mechanisms . . . water pumps . . . bottling machines . . . refrigerators . . . motors . . . lubricators . . . are a few of their uses. Minnesota's exclusive injection process makes possible very close dimensions, uniformity in mass production and downright economy. We use special compounds of synthetic rubber to meet your exact requirements. Let us quote on your next hydraulic packing installation.



Manufacturers of all types of small rubber parts

Write for O-Ring Catalog

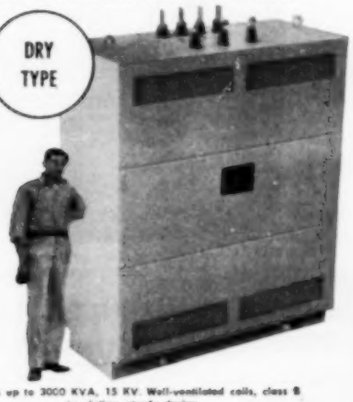
MINNESOTA RUBBER & GASKET CO.
3630 WOODDALE AVE., MINNEAPOLIS 16, MINN.

If you write maker identify as IEN-11271

Uptegraff Power Transformers

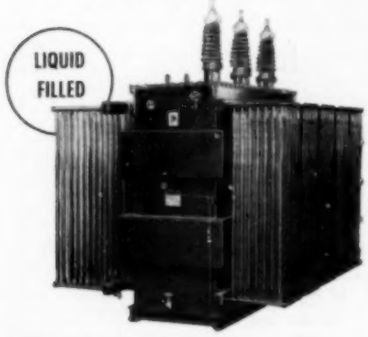
Uptegraff offers a complete line of dry type and liquid filled power transformers, in sizes and ratings up to 10,000 KVA, 69 KV, for indoor or outdoor service.

DRY TYPE



Sizes up to 3000 KVA, 15 KV. Well-ventilated coils, class B insulation, sturdy design.

LIQUID FILLED



6000 KVA, 67 KV inert gas, oil seal, Uptegraff Power Transformer. Radiators well spaced for easy cleaning and maintenance.

R. E. UPTEGRAFF MANUFACTURING CO.
THOMAS STREET . . . SCOTTDALE, PENNSYLVANIA

If you write maker identify as IEN-11273

METAL TREATING . . Coloring process to finish and rust proof ferrous metal

Source: PARKER RUST PROOF CO.
2175-79 E. Milwaukee Ave., Detroit 11, Mich.

About 0.3 cent per square foot of surface

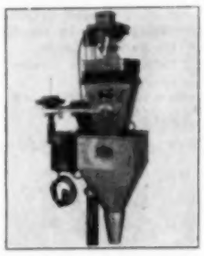
Parco Black trade names a new blackening salt. It is employed in solution with water at about 180 deg. to create a layer of phosphate crystals over a ferrous metal surface on work that is immersed in the solution for an interval between 15 and 30 minutes. The work pieces are rinsed and dried following immersion. Then they are oiled or waxed to complete the operation.

A complete cycle includes removal of oil, grease, scale and foreign matter from the work surfaces, rinsing in hot water, immersion for the required interval, rinsing in hot water, final rinse in Parcolene to be followed by drying. The dry surface is then oiled or waxed as required. The process is carried out in ordinary steel tanks. Any pieces can be treated that can be immersed in these tanks.

If you write maker identify as IEN-11274

PLASTIC MOLDING . . Feeder weighs material to injection machine

Source: B. F. GUMP CO.
1313 S. Cicero Ave., Dept. D, Chicago 50, Ill.



Feeds exact charge

Plastic material, powdered or granular, is fed from an overhead supply to the injection chamber on a plastic molding machine in exact predetermined weight by this new Series-C Edthauer-Duplex net weight feeder. The unit is electrically actuated each time the machine's injection plunger moves back into position to receive the charge. The weighing and delivery interval requires 2 to 5 sec. depending upon the material weight. Feed is shut off as soon as a charge has been delivered and the feeder remains inactive until the plunger retracts again.

Model C-1 has maximum capacity of 123 cu. in. or a weight range from 4 oz. to 2 pounds. Model C-2 rates to 280 cu. in. with a weight range from 4 oz. to 3 pounds. Accuracy is within 2 gm. per charge. Larger models, to 1.2 cu. ft., and smaller units capable of weighing as little as 5 gm. per charge can be specified. Aluminum weight hoppers and galvannealed steel discharge hoppers and spouts are standard construction in the regular machine. Supporting members and main frames are made of cast iron.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN-11275

CUT LOADING TIME! 1 DOCK HANDLES THE FREIGHT OF 3

ROWE ADJUST-A-DOCKS

Eliminate Costly Hand Loading

1. Brings dock to level of any truck bed.
2. Speeds loading by fork and lift truck directly into carriers.
3. Eliminates dock hazards.
4. Floats at truck level.
5. Sturdy hydraulic finger-tip control.
6. Pays for itself in 30 days.

ADJUST-A-DOCK

LOOK into the SAVINGS you can make in freight handling with Rowe Adjust-A-Docks. WRITE FOR BULLETIN and complete information.

ROWE METHODS, INC.
2534-H DETROIT AVENUE • CLEVELAND 13, OHIO

If you write maker identify as IEN-11276

Your Best Buy in Compact Power!

Hydraulic PUMP or Hydraulic MOTOR

Ready for either use *without alterations!*

Denison's new vane-type Pump/Motor combines *radial hydraulic balance* with fully interchangeable pump and fluid motor utility — the finest money can buy in compact power for 2000 psi continuous duty.

Available in four sizes with a choice of cam rings for each size, the new Denison HydrOILic Pump/Motor offers eleven pumping capacities from 2.7 to 70 gpm. As fluid motors, their torque capacities range from 15 to 257 pound-inches per 100 psi.

Balanced Vane Action assures minimum wear. Vanes contact the cam ring with *dual* sealing edges. **Full radial balance** reduces surge and pulsation to a minimum. **Interchangeable cam rings** widen the range of capacities for each Pump/Motor size. And all Pump/Motors are instantly adaptable for **either clockwise or counter-clockwise** operation.

Write for Bulletin P-5.

DENISON HydrOILic PUMP/MOTOR

The DENISON Engineering Co.
1160 Dublin Rd., Columbus, Ohio

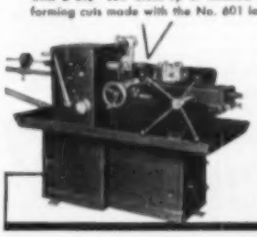
If you write maker identify as IEN-11277

HEAVY CUTS

OSTER

No. 601 "RAPIDUCTION" the SIMPLIFIED LATHE

View shows this lathe removing a .007" chip on S.A.E. 1335 steel with a 3½" cut. Close-up of finished part is example of heavy forming cuts made with the No. 601 lathe. *It's EASY to operate!*



Capacity: 1½" round bar. Optional features include WORM drive or DIRECT drive; 2-speed or 4-speed motor; other optional features. Write for Bulletin No. 601.

THE OSTER MFG. CO.
2053 EAST 61st STREET
CLEVELAND 3, OHIO

If you write maker identify as IEN-11278

an ACCO product

"BRALE"

Sphero-Conical DIAMOND BRALE* PENETRATOR for Hardened Steel

HOW IT WORKS

A. Minor Load Penetration
B. Major Load Penetration
C. Linear measurement of penetration increase which "ROCKWELL" converts to hardness reading

BRALE Penetrator Accuracy Is Proved in Wilson's Standardizing Laboratory

One point of hardness on the Rockwell C scale equals .00008", so penetrator accuracy must be constant. That's why Wilson maintains its Standardizing Laboratory for testing and approving every BRALE penetrator.

Each BRALE is precision ground to shape under high magnification to research laboratory accuracy. Wilson's BRALE Penetrator gives true readings at all dial points. For accuracy use a diamond BRALE penetrator on your hardness tester. Write for literature.

ACCO *Trade Mark Registered

WILSON MECHANICAL INSTRUMENT DIVISION
AMERICAN CHAIN & CABLE
230-X Park Avenue, New York 17, N. Y.

WILSON "ROCKWELL" and TUKON Hardness Testers

If you write maker identify as IEN - 11279

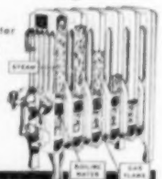
NO NEED TO WORK IN AN OVERCOAT

WITH A CLOW GASTEAM RADIATOR IN YOUR OFFICE

Steam Heat...where you want it... when you want it.

SEND FOR COMPLETE INFORMATION, INCLUDING OPERATING PRINCIPLES, INSTALLATION DATA, TYPICAL INSTALLATIONS AND PRICES.

Hard to heat offices within a cold, drafty plant, warehouse or plant out-building become warm and comfortable with an individual Clow Gas Steam Radiator. Economical, because they make their own steam heat with gas. No hot water pipes, boiler or furnace room to depend upon. Available in 35 sizes, vented and unvented, to meet every heating need.



Available for City, Butane or Propane Gas

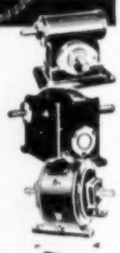
JAMES B. CLOW & SONS
201-299 N. Talman Ave., Chicago 80, Ill.

If you write maker identify as IEN - 11280

built for years of dependable service

Abart SPEED REDUCERS

Year after year, Abart Speed Reducers continue to give dependable and power-conserving service, even under the most trying conditions. Designed and built for endurance and operating economy, they have established fine performance records on thousands of applications. From a wide choice of 75 different models and types, you'll find an Abart suited to your needs. Units available in spur, worm and combinations, including gear motors. Single- and double-reduction models are rated from 1/50 to 168 h.p., with ratios up to 10,000 to 1.



Send now for handy, pocket-sized catalog. You'll find just the unit you are looking for, together with complete technical data on all types of Abart Speed Reducers.

Abart GEAR & MACHINE CO.
4823 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears, Speed Reducers and Gearmotors

If you write maker identify as IEN - 11281

SPRAY NOZZLES

...FOR EVERY NEED!

For lower cost and more efficient spraying use Spraying Systems Spray Nozzles. Complete type and size selection for every need. Write for Catalogs.

CLIP AND MAIL

SPRAYING SYSTEMS CO.
3208 Randolph Street • Bellwood, Illinois

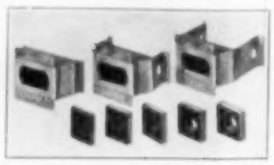
☐ Send me Catalog No. 22 ☐ Send me Catalog No. 23

Name
Company Name
Address
City State

If you write maker identify as IEN - 11282

FASTENING . . Concrete insert and off-set nut provides bolt anchor

Source: **SUPER-GRIP ANCHOR BOLT CO.**
3337 N. 22nd St., Philadelphia 40, Pa.



No "fishing" required

Super-Grip trade names a new adjustable formed steel insert to secure in a concrete form and an off-set nut that can be started on a bolt before the nut is inserted in anchoring position. The insert unit is equipped with V-shaped notches and two center grooves for alignment. Four small holes permit placing it on dowel pins or reinforcing rods. Sizes are available for bolts from ¼ to ¾ inch.

If you write maker identify as IEN - 11283

SOLDERING . . Rosin core solder particularly for electrical work

Source: **DIVISION LEAD CO.**
834-38 W. Kinzie St., Chicago 22, Ill.

No chance for cold joints

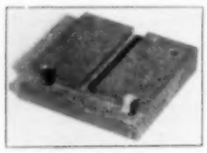
Quick "take" and "flow" characterizes the action of the company's new Divco X-25 rosin core solder. It can be employed on any metal normally used in electrical work including brass, cadmium, copper, galvanize, nickel, tin, zinc. New or old parts can be joined. The core is free of ingredients that might remain in the flux residue and cause corrosion in either the base metal or the solder or promote electrical leakage if the residue is not removed.

Three stock sizes range from 0.032 to 0.092 in. in diameter. Thirteen additional sizes, from 0.035 to 0.250 in., are available to order. Sizes below 0.062 in. are available on 5-lb spools. Sizes from 0.062 to 0.123 in. are supplied on 1, 5 and 25-lb spools. Sizes heavier than 0.148 in. are packaged on 25-lb. spools only. The 1-lb. spools are packaged 25 to a carton, the 5-lb. spools 20 to a carton, the 25-lb. spools 4 to a carton.

If you write maker identify as IEN - 11284

INSULATING . . Laminated plastic particularly for electrical parts

Source: **ROGERS CORP.**
27 Mill St., Manchester, Conn.



Machined piece

Duroid 700 and **800** are new heavy gage fibrous insulating materials. They can be threaded, machined, sawed, using conventional equipment. Edge finish is excellent. Duroid 700 is used for formed electrical insulating parts in gages from 0.031 to 0.125 inch. Duroid 800 is employed for flat insulating parts requiring a low rate of water absorption.

The material is available with thickness to 3 in. by 24 and 48 in. in width, 48 and 50 in. in length. Physical strength is comparable to fabric base laminates.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11285

Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

NEW!
MEDIUM DUTY INDUSTRIAL CASTER
Cuts Handling Time —Saves Man-Hours

900 Series Double Ball Bearing Swivel Plate Caster with Vulcanized Rubber Tread Wheel

The 900 Series, all purpose, Truck Caster has heavy pressed steel horn and top plate, corrugated for extra strength. Swivels easily on *two* full rows of hardened balls rolling around *two* separate raceways. Choice of six kinds or wheels to suit load (175 *lb.* to 550 *lb.*) and floor surface conditions.

All the engineering "know-how" from *over half a century of specialized experience* is yours in Faultless Industrial Casters—to speed production lines, trucks, portable equipment . . . with *less time, noise, effort.* Ask for Cat. 156, no obligation.

FAULTLESS CASTER CORPORATION
Dept. IE-11, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

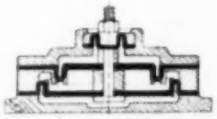
If you write maker identify as IEN - 11286

Brush the cobwebs off your design!

Use **BELLOFRAMS*** for precision measurement — for frictionless power.

- Effective strokes up to ⅜ diameter of Bellofram
- Controlled constant area within 0.1% or less
- Temperature ranges −65° to +600°F
- Pressure Ranges ¼" H_2O to 500 PSIG

**Bellofram — denotes the long stroke, deep convolution, constant area diaphragm developed by the Bellofram Division of Kendall Controls Corp.*



BELLOFRAM DIVISION
KENDALL CONTROLS CORPORATION
144 MOODY STREET WALTHAM 54, MASS.

If you write maker identify as IEN - 11287

Simpson

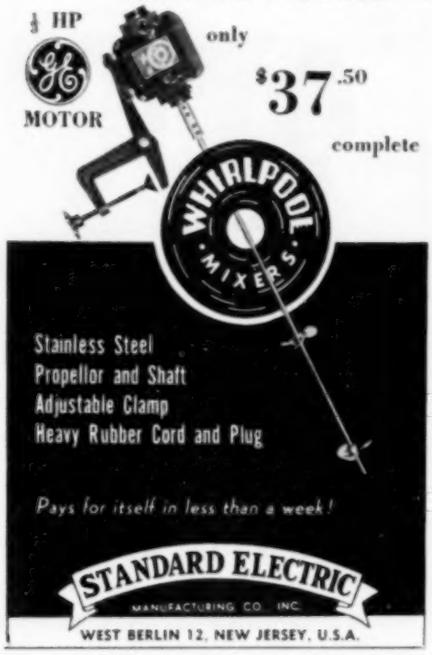
***multi-purpose* MICROTESTERS STAY ACCURATE!**

These instruments are 5"x5⅞"x2½"—weigh 1¼ to 1½ lbs.—shipping weight, 3 lbs. Prices shown are dealer's net. Except where otherwise indicated test leads with prods or test leads with alligator clips and insulated sleeves are $1.25 extra.

AC AMMETER	Model 370	Price $19.95
AC VOLTMETER	Model 371	Price $18.40
OHMMETER	Model 372 with Test Leads	Price $25.50
DC MILLIAMMETER	Model 373	Price $19.95
DC MICROAMMETER	Model 374	Price $23.00
DC AMMETER	Model 375	Price $19.95
AC VOLTMETER	Model 376	Price $19.95
DC VOLTMETER	Model 377	Price $19.95
AC MILLIAMMETER	Model 378	Price $22.60
BATTERY TESTER	Model 379 with Test Leads and Operator's Manual	Price $23.70

Simpson ELECTRIC COMPANY
5200 W. Kinzie Street • Chicago 44, Illinois
Phone: COlumbus 1-1221
In Canada: Bach-Simpson, Ltd., London, Ont.
World's Largest Makers of Electronic Test Equipment

If you write maker identify as IEN - 11289



If you write maker identify as IEN - 11290

Accurate temperature reading cuts costs — reduces waste!

◀ USE THE **NEW PYRO** LOW COST

Surface Pyrometer

Gives accurate surface and sub-surface readings under all operating conditions . . . yet costs as little as $67.50 complete! Choice of two models with flexible or rigid extension arm, for use with one or more of 8 types of thermocouples. (One thermocouple included.) Supplied in 4 different temp. ranges (0-400 to 0-1200). Ask for FREE Catalog #180.

PYRO OPTICAL PYROMETER ▶

TEMPERATURES AT A GLANCE!

Self-contained, complete, weighs only 2½ lbs. Measures temps. from 1400° to highest temps. attainable in industrial plants . . . also records temps. of fast-moving objects, minute spots or smallest streams. Direct-reading, no correction charts needed! Available in 5 ranges from 1400°F to 7500°F. Ask for free Catalog #90.

PYROMETER INSTRUMENT COMPANY

Plant and Laboratory

BERGENFIELD 21 • NEW JERSEY

If you write maker identify as IEN - 11291

WORLD'S FASTEST, SAFEST SCAFFOLDING WACO

ROLLING TOWERS

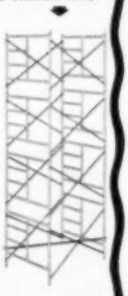
Speedy and simple for maintenance work!

SECTIONAL SCAFFOLDING

Saves hours in scaffold erection time!

BIG WACO FEATURES!

Only WACO features the original, proven "SPEEDLOCK". Speed, safety and convenience in scaffold assembly.



- Built-in, floating coupling pins
- Built-in ladders
- Pivoted cross-braces
- Heavy duty rubber tire wheels
- Brake-type casters

Phone your local WACO distributor today for a free demonstration. Distributors in all principal U.S. and Canadian cities.

Write for free file folder

SALES-RENTALS

WILSON-ALBRECHT CO., INC.
DEPT. R, 3566 WOODDALE AVE.
MINNEAPOLIS 16, MINN.

WACO

If you write maker identify as IEN - 11292

ELEVATOR . . Hydraulic platform to service elevated plant equipment

Source: MITCHELL MAINTENANCE CO.
203-A E. Adams St., Muncie, Ind.

List is $6,800

Work platform rides the uprights of a specially equipped and counterbalanced hydraulic truck in this new mobile elevator assembly. The platform can be raised or lowered, at controls mounted on it, to move from about 4 ft. above the floor to a little under 13 feet. At the same time it provides "reach" to about 10½ ft. ahead of the truck's front wheels. The platform can be held at any position between the two limits. It will carry a load of 500 lb. when fully extended and with the truck's counterbalance tank filled with water.

The tank carries about 100 gal. of water and is served by a pump that will deliver it into washing tanks on the platform. At the same time water already in the tanks is returned to a separate compartment in the ballast tank so the weight at this point remains constant.

The truck can be moved from one location to another by manipulating "walkie" controls in the same manner as other lift trucks of this type. The complete assembly is designed to reach up and extend over installed equipment to permit access for servicing in upper areas where valves, pipe lines, electric lines, junction boxes and lighting equipment are located. Wings on the sides of the platform catch materials and parts that may be accidentally dropped by the operator. Standard equipment on the truck includes a battery.

If you write maker identify as IEN - 11293

GAGE . . Carbide ring design for threads is resistant to wear

Source: HANSON-WHITNEY CO.
167-71 Bartholomew Ave., Hartford 2, Conn.

For production use

Carbide insert carries threads in an adjustable steel holder in this new ring type gage. The extreme hardness and wear resistance of the carbide segments act to maintain initial accuracy in continuous use on metal parts and also on abrasive materials such as laminated plastics, light metal alloys, cast iron. Service tests indicate gage life to be as much as 50 times more than can be obtained from regular steel thread rings. The carbide can be reserviced for wear. They also can be used as master or reference rings when desired.

"Go" units are regularly stocked for American National Coarse and Fine thread series from No. 6 to ½ inch. Pitch diameters are basic for Class 2 and 3 American National and Class 3A Unified threads. The holder can be supplied to combine "go" and "no go" rings in one unit.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11294

Here's a new lightweight cutter, built to cut flat steel strapping easily, quickly and safely.

It's Acme Steel's new E14AO Strap Cutter. It weighs just one pound and it's only 9½ inches long—but it cuts steel strapping up to ¾ inch. Won't dig into carton or bale. Built-in band guide keeps strap from turning on edge or wedging between blades.

If your receiving room gets strapped packages—and who doesn't?—you need this new cutter. Call the Acme Steel service office nearest you, or write Acme Steel Products Division, Dept. IEN-102.

ACME STEEL COMPANY
2840 Archer Avenue, Chicago 8, Illinois

ACME STEEL

If you write maker identify as IEN - 11295

LOW COST *Electronic* AIR FILTRATION

The Electro-PL is a unique dry-type, electronic air filter. Designed to provide intermediate air cleaning efficiency with maximum economy, it is now widely used for industrial, commercial and military installations. These total more than 5,000,000 cfm. The Electro-PL is dual-purpose . . . may be operated as either a dry-type air filter or with the electronic feature as seasonal conditions vary. Available in standard units for straight or "V" bank arrangements to meet almost any air volume requirements. For complete details write for Engineering Bulletin No. 257.

American Air Filter
COMPANY, INC.
335 Central Avenue, Louisville 8, Ky.
American Air Filter of Canada, Ltd., Montreal, P. Q.
Pacific Division Office, San Francisco, Calif.

If you write maker identify as IEN - 11296

CUTS PLATE ¾" x 10'-0"
(OTHER SHEARS FOR PLATE TO 20'-0")

THE LAST WORD IN SHEARS

No other shear is like Steelweld. No other shear has its many features. It is the last word in metal-cutting machines.

Consider: (1) Fatigue-reducing electric foot control; (2) Fast, easy Micro-Set Knife adjustment which enables smooth accurate cutting of all thickness metals; (3) Convenient front-adjusting back gauge; (4) Trouble-free mechanical hold-downs; (5) All-welded, rigid one-piece steel frame; . . . and many more advantages that make operation easy and assure top performance.

Built for all thickness metals to one inch and lengths to 20'-0".

STEELWELD Pivoted Blade SHEARS CATALOG No. 2011

Send for free copy of catalog No. 2011.

THE CLEVELAND CRANE & ENGINEERING CO.
4232 East 282nd St., Wickliffe, Ohio

STEELWELD SHEARS

If you write maker identify as IEN - 11297

HOLD LABELS *SECURELY*! . . TO TIN, METAL, GLASS

Grip-Tight is ideal for food, chemical, paint cans

GRIP-TIGHT Label Paste, the time tested resin emulsion paste, for hand brushing, definitely holds paper labels smoothly, easily, permanently to hundreds of surfaces and materials including: tin cans, metal pails, steel drums, lacquered, painted, varnished surfaces, glass bottles, metal parts, etc.

Use it for attaching product labels, instruction and caution labels, Express Waybills, circuit diagrams . . this *ONE* adhesive may do all your labeling work.

Fill in coupon for further details or send for trial shipment today.

MAIL THIS COUPON TODAY!

Gentlemen: Please ship F.O.B. Chicago or New York, the following trial order ON APPROVAL. Invoice to be cancelled if merchandise not satisfactory.

....Quart Jars Grip-Tight at $1.15 ea.
....Gallon Jars Grip-Tight at $3.40 ea.
☐ Send Technical Bulletin describing Grip-Tight and complete price schedule.

Name _____
Address _____
City _____ State _____

PAISLEY PRODUCTS INCORPORATED
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 530 W. 51st STREET, NEW YORK 19, N. Y.

If you write maker identify as IEN - 11298

PROVIDES
Valve Combinations
FOR 90% OF
INDUSTRIAL PIPING

Jenkins Fig. 106-A Series

● With only four bodies and a handful of interchangeable parts, you can assemble 18 different valves of the 106-A "family". Meeting 90% of all industrial piping needs, you can understand why the 106-A Series is so justly famous. The renewable disc, fitted in the slip-on stay-on disc holder, assures drop-tight closure and lasting economy under the toughest service conditions.

NEW 12 PAGE FOLDER NOW READY, describing the many easily-assembled combinations of the 106-A "family" of Renewable Composition Disc Bronze Valves and including a Disc Guide. Ask your Jenkins Distributor for it. Jenkins Bros., 80 White St., New York 13, N. Y.

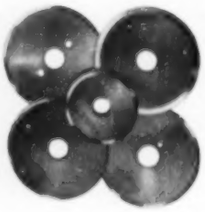
LOOK FOR THIS DIAMOND MARK

JENKINS VALVES

TYPES, SIZES, PRESSURES, METALS FOR EVERY NEED

If you write maker identify as IEN - 11299

Continental CUT-OFF WHEELS
CUT MORE PIPE PROFITABLY



These Wheels Feature Continental's Exclusive "True-Angle Bevel"

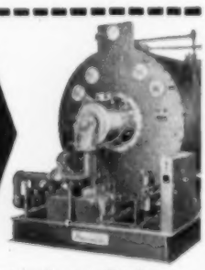
For faster, cleaner cuts — and more cuts between sharpenings. For all makes of rotary cut-off machines. *Also, Manufacturers of Cut-Off Machines . . Chaser and Wheel Grinders.*

Request Circular Today

Continental MACHINE CO.
SINCE 1919
1952 N. MAUD AVE. • CHICAGO 14, ILL.

If you write maker identify as IEN - 11300

ONLY THE Powermaster® GIVES YOU VORIFLOW® COMBUSTION!



Latest Development in Burner Design Saves Fuel and Man-Hours

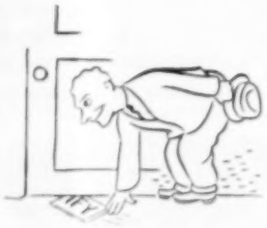
1. Wide range modulation between high and low fire at full efficiency—you use less fuel. 2. Freedom from carbon cuts clean-up time and expense—usually by 50%. 3. Change from oil to gas (or gas to oil) in a few minutes.

To Cut Your Steam Costs Mail Coupon Today

ORR & SEMBOWER, INC. • 860 Morgantown Road • Reading, Pa.
Please send my free copy of the POWERMASTER catalog.

NAME _____ TITLE _____
(Please Print)
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

IDEAS FOR YOU



Items of particular interest in the news other than straight new products, development pointing toward the future, unusual procedure to accomplish a point, suggestions for practical action, each to provide ideas for you.

Identify as IEN - 11301

Fiberfrax, now in pilot plant production by Carborundum Company at the rate of about 30 ton per month, is available for test and evaluation. It is a new fibrous material made by melting aluminum oxide and sand in an electric furnace and then subjecting a stream of the molten lava like material to a controlled blast of air. The molten material is blown into a fluffy mass made up of random arrangements of extremely fine fibers. These range to 3 in. in length and have an average thickness about one-quarter that of fine silk. It is produced and collected in the fluffy mass but eventually will be processed into felted blankets, firmly bonded batts, tape and paper like forms.

It resists temperatures that will melt cast iron. It can be bonded into insulating panels that will resist fire, prevent heat loss, deaden sound. It can improve the efficiency of gas and fume filtration. The company will send you a small sample and technical details.

Identify as IEN - 11302

Heaterete is a new Lee-Don Inc. densifying material for use in concrete to provide heat conductive construction for installations in which heating pipes are carried through the concrete for radiant heating and also for cooling. Chief ingredient is a mineral in granular form. The densifying material is physically and chemically stable. It does not expand or contract. A glaze like finish is obtained in the concrete resembling pottery glaze.

Identify as IEN - 11303

Technical data are now available in connection with Carbide & Carbon Chemicals' Ucon cutting fluid H-660, previously described IEN 5942-52. Prices are included in various quantities from single gallons to tank car lots.

Identify as IEN - 11304

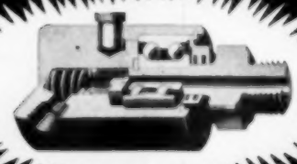
Basic suggestions for good showmanship in putting on movies and slide film shows are contained in a new leaflet published by Eastman Kodak under the title "Effective Projection of Movies, Slides and Slidefilms". The information includes care of the equipment, film and screen. A picture section on the back of the leaflet illustrates projection difficulties and their remedies. The leaflet is free.

Identify as IEN - 11305

A milling machine numerically controlled is now in operation at M. I. T. in Cambridge, Mass. The machine responds to instructions transmitted to it as numbers. These numbers are derived directly from the drawings and specifications of the part to be worked, the information being coded and punched on a paper tape similar to that used in the automatic transmission of teletype messages. The commands are carried out by power amplifying servo mechanisms. Personnel at the Institute's Servomechanism Laboratory are prepared to answer questions concerning the new machine.

If you write maker identify as IEN - 11306

FAWICK ROTORSEALS
Performance Proved in
THOUSANDS OF INSTALLATIONS



Machine problems requiring transmission of air or liquids from stationary to rotating machine members are best solved with FAWICK ROTORSEALS.

Precision ROTORSEALS are available in single and multiple passage units, insuring dependable sealing of air, liquids or gases under pressure. They are equally effective in vacuum applications and may be operated continuously or intermittently in either direction.

FAWICK AIRFLEX CO., INC.
9919 CLINTON ROAD • CLEVELAND 11, OHIO

For complete information on a FAWICK ROTORSEAL to suit your specific application, write to the Home Office, Cleveland, Ohio

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

If you write maker identify as IEN - 11307

Just because that bathing suit is proper at the beach, she shouldn't assume it's proper for the classroom, too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for *all* bearings on that machine. In many cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little*.

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

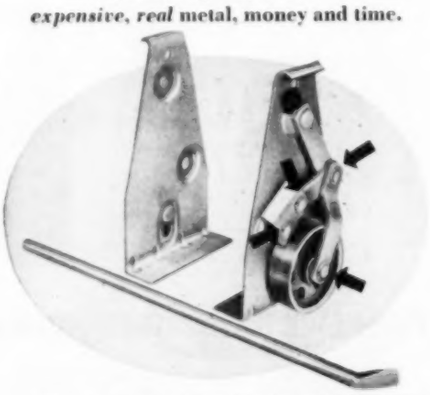
Write for free Catalog No. 60-A

GITS BROS. MFG. CO.
1854 S. Kilbourn Ave. • Chicago 23, Ill.

If you write maker identify as IEN - 11308

Here's another example of *SAVING!*

—where *inexpensive, artificial* shoulders, (retaining rings) save *expensive, real* metal, money and time.



These clever new Travel Jacks, made by The Winklemann Co. Inc. of South Bend, Ind., weigh only 15 lbs. a pair, but they handle loads up to 2000 lbs.

Their sturdiness and efficiency are remarkable. Because of smart designing, just four retaining rings on each Jack simplified their construction at great saving.

These Travel Jacks eliminate costly equipment and costlier man hours in the handling of materials just as retaining rings eliminate the costly, wasteful, former practice of cutting down large shafts to make shoulders, and costlier man hours in assembly.

Every product-metal, wooden or plastic—and every machine should be examined *now* to see where shoulders and collars can be redesigned *to effect great savings* by the use of steel retaining rings.

Let us show you how they can do an efficient job for you on your shafts or in your housings.

Write today for booklets on many types of National Retaining Rings.

THE NATIONAL LOCK WASHER CO.
NEWARK 5, NEW JERSEY • MILWAUKEE 2, WISCONSIN, U. S. A.

If you write maker identify as IEN - 11310

THEY'RE
RESOLITE
SHATTERPROOF LIGHTS!

Every factory or shop subject to severe vibration, concussion, intermittent radiant heat and other causes of glass pane breakage, should be glazed with shatterproof, crackproof RESOLITE.

Pale green Resolite provides high light transmission, excellent light diffusion and visual comfort. Resolite is molded of polyester resins, reinforced with Fiberglas mat. It is unaffected by weather extremes of heat, cold or moisture and inert to industrial fumes.

For glazing partitions or similar use, Resolite is supplied in flat sheets up to 42" x 96", in standard or extra heavy weights, and in eight colors. Sheets or lights are cut at the factory to specified dimensions, but may be cut on the job, when necessary, with a hand or disk saw. Standard glazing methods are used to install Resolite.

Resolite is also supplied in standard corrugated roofing sheets for simplified skylighting.

For complete information and name of nearest distributor, write:

Route 19

RESOLITE Corporation • ZELIENOPLE, PA.

If you write maker identify as IEN - 11311

it's here...
The NEW, REVOLUTIONARY
Collapsible
"PHIL-BOX"
Collapses from 28⅞" to 9 1/16" in Height

MODEL S-20

The new Phillips collapsible 2000 lb. capacity material handling "Phil-Box" is designed for saving space in storing and transporting bulk materials and parts. Quickly and easily collapsed or erected, the box interior measures 49" x 37" x 24". The "Phil-Box" has no pins or loose parts. Made of heavy gauge corrugated steel, it is of all welded construction—with smooth rolled edges for maximum safety. Can be stacked in collapsed or upright position. Fork lift or pallet truck can enter from all four sides for easy lifting.

Boxes stacked in collapsed position.

Boxes stacked in upright position.

Write for Bulletin E-14

MANUFACTURERS SINCE 1861 PHILLIPS PITTSBURGH, PA.
MATERIALS HANDLING EQUIPMENT
2500 JANE STREET • PITTSBURGH 3, PA.

IDEAS FOR YOU—Continued

Identify as IEN - 11313

Distribution problems will be simplified for manufacturers who sell nationally but who have no jobber or other outlets as soon as the new National Equipment Mfrs. Depots gets under way. First unit is expected to open in Detroit in October. Others are being planned in major industrial centers. The organization will warehouse small products such as valves, gages, compressors, motors. It also will take and fill local and out of town orders, accept telephone messages, forward literature and product information.

Identify as IEN - 11314

Bausch & Lomb announces a free consulting service to demonstrate the manner in which various models of its Stereomicroscope can be built into machines and inspection set-ups to speed processing, minimize rejects and help the operators. The instrument provides comfortable observation of an enlarged image with a wide field of view, long working distance and three dimensional qualities that assist in interpretation. You originate the service with a request to the company.

Identify as IEN - 11315

For only $62,500 you can have one of the new Electronic Computer "giant brains" to take over your heavy thinking. The machine can remember 102,400 nine digit "words". It will solve a ten digit mathematical problem in 0.003 second. Elecom 100 is its designation.

Identify as IEN - 11316

New facilities for storage of its "in process" tubing have been developed by Superior Tube Company. The new installation may offer suggestions that you can use to advantage.

Two storage racks and a mobile lift platform between them comprise the installation. Each rack is built of 3-in. channel for vertical members and 1½-in. hollow stock horizontal members forming a lattice measuring about 25 by 21 by 12 feet. Openings in the lattice are 12-in. square and 300 of these openings are provided in each of the two racks.

The open area between the racks measures about 20 by 25 ft. and in this area is a Lewis Shepard Spacemaster mobile elevator. It can register its load platform with any of the rack openings. It carries an operator platform at a somewhat lower elevation so he can handle the work conveniently.

Identify as IEN - 11317

Your trade mark can be employed as the pattern to be impressed into sheet metal in Rigidized Metals Corporation's production of Rigid-Tex design strengthened metal sheet. The company is prepared to assist in working out the design, to make up samples in heavy aluminum foil.

Identify as IEN - 11318

Free kit containing samples, prices and technical data are available on request from Fibleco Illinois Corp. on its Fibro-Pad protective cushioning material for packaging use. The material is regularly supplied in 4 to 72-in. width and in standard rolls containing 100 feet. Thickness ranges from ⅛ to 1 in. in standard construction, to 4 in. on special order.

Identify as IEN - 11319

Barotor designates a new process for which DuPont is developing equipment to pressure dye synthetic fiber fabrics. Licensing arrangements are being made under pending patents with several textile machinery firms. Dyers will be free to employ the process without royalty.

Characteristics of the process are that the fabric being dyed is open width at all times, tensionless and wrinkle free. Batches as small as 100 yd. or in excess of 1,000 yd. can be handled equally well. There is no need for attention during the dyeing operation. Samples are always representative.

If you write maker identify as IEN - 11320

MET-L-WOOD
METAL BONDED TO PLYWOOD
Has Hundreds of Structural Uses in Modern Plants

To Name a Few:
- Walls and Partitions
- Doors
- Counters and Shelves
- Traffic Panels
- Truck Bodies (Patented "Ribless" Construction)
- Truck Body Panels
- X-Ray Rooms
- Moisture-Vapor-Proof Rooms and Containers
- Decorative Finishes

Met-L-Wood stock panels and prefabricated units are a challenge to modern industrial engineers and designers because of their multiple possibilities in economical, structurally-sound designs in hundreds of varied uses. Best start toward thinking in terms of Met-L-Wood design opportunities is to send for the Bulletin described below . . . Met-L-Wood Engineering Service is available without obligation on specific problems.

SEND FOR THIS BULLETIN ON MET-L-WOOD USES AND ADVANTAGES
Quick facts, with illustrations and diagrams on Met-L-Wood applications, types, possibilities. Sent without obligation on request.

Met-L-Wood is metal bonded to plywood—permanently. Many metals, woods, thicknesses, shapes, finishes are available to meet YOUR requirements.

MET-L-WOOD CORPORATION
6755 West 65th Street • Chicago 38, Illinois
"Met-L-Wood . . . opening new horizons to structural designers"

If you write maker identify as IEN - 11321

Variable Speed Control for Light Machinery

Costs only a trifle — brings amazing results

Converts a constant speed motor to a variable speed drive . . . fits on standard motor shaft. Provides accurate, positive speed changes while the machine is running. With a turn of handwheel, you get exactly the right speed for every job under every changing condition. Sizes from ⅛ to 1½ hp—$7.50 and up. Write for Bulletin IN 66b-J.

Reeves Pulley Company • Columbus, Ind.
REEVES Variable Speed Control

If you write maker identify as IEN - 11322

Tie faster, tighter, safer with one machine and Gerrard Steel Strapping

MODEL G MACHINE

• A single Gerrard machine (there are several sizes to fit a variety of jobs) tensions, ties and cuts Gerrard Steel Strapping quickly. It leaves a strong, tight, securely tied, steel strap around box, carton, crate and pallet, whether rectangular, circular or odd in shape. Gerrard Strapping complies fully with Army-Navy specifications JAN-P-106A, JAN-P-107 and JAN-P-108 for overseas packing.

Call a Gerrard engineer for the full story about the Gerrard Method of Strapping. The full story includes the reasons why Gerrard Round Steel Strapping costs about 40% less than any other metal reinforcement, and recommendations for the correct machine and size of strapping to do your tying job best.

GERRARD STEEL STRAPPING DIVISION
UNITED STATES STEEL COMPANY
4701 South Richmond St., Chicago 32, Ill.

U·S·S GERRARD ROUND STEEL STRAPPING
UNITED STATES STEEL

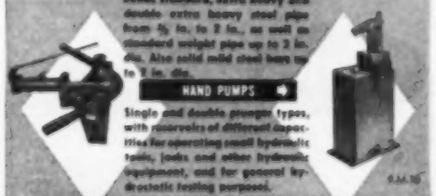
If you write maker identify as IEN - 11323

WATSON-STILLMAN
HYDRAULIC POWER TOOLS FOR INDUSTRY

HYDRAULIC JACKS
These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 20 to 300 tons.

WIRE ROPE SHEARS
W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

PORTABLE PIPE BENDERS
Bends standard, extra heavy and double extra heavy steel pipe from ⅜ in. to 2 in., as well as standard weight pipe up to 3 in. dia. Also solid mild steel bars up to 2 in. dia.



HAND PUMPS
Single and double plunger types, with reservoirs of different capacities for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

Send for your copy of Bulletin A-5 . . . It's Free.

DISTRIBUTOR PRODUCTS DIVISION
WATSON-STILLMAN
ROSELLE, NEW JERSEY

If you write maker identify as IEN - 11324

Read all about this Surface Grinder!

Send today for your copy of this new catalog!

Here's a brand new catalog — packed with facts and figures about the 1218 Hydrabrasive Surface Grinder. If you're concerned with getting better output and improved quality in your surface grinding operations, you'll find this new hydraulically operated surface grinder fits right into your plans. The 1218 Hydrabrasive, because of its wide cross travel (12") and moderate table length (18"), takes the load off your heavy grinders on many classes of work.

ABRASIVE MACHINE TOOL COMPANY
18 Dunellen Road, East Providence 14, R. I.

ABRASIVE — Abrasive Quality is Reflected in the Finish of Your Product

If you write maker identify as IEN - 11325

POWER FOR TOOLS ...LIGHTS FOR SAFETY! FAIRBANKS-MORSE GENERATING SETS

Available in capacities from 600 to 35,000 watts.

Construction and repair crews working away from high power lines will find a dependable source of electric power in a Fairbanks-Morse Generating Set.

These generators are widely used by railroads, lumber camps, oil field operators, government services, public works contractors and many others, because of their ability to take hard knocks and still deliver power.

Send for booklet describing the complete line of Fairbanks-Morse Generators. Write Fairbanks, Morse & Co., Chicago 5, Ill.

FAIRBANKS-MORSE,
a name worth remembering

If you write maker identify as IEN - 11326

REDUCE FILTRATION TROUBLES!

Need a filter but worried about filtration costs, operation, or suitability for your purpose? Then get your Free Copy of the Titeflex® Filter Booklet right away.

Ask for a Titeflex Engineer to set you straight on costs and equipment for your special needs. No obligation. Mail coupon today.

FREE BOOKLET... FREE ADVICE

Businesses served by Titeflex Filters include ...

Chemical • Distilling	Dry Cleaning
Electroplating	Paints & Lacquers
Soap • Cosmetics	Water
Pharmaceuticals	Food Processing
Wine • Beverages	Edible Oils
Machine Tool	Food Extracts

Titeflex — Let Our Family of Products Help Yours

MAIL COUPON TODAY

TITEFLEX, INC.
506 Frelinghuysen Ave., Newark 5, N. J.

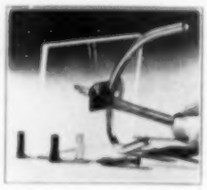
☐ Please send me a copy of your Free Booklet about Titeflex Filters.
☐ We need the advice of a Titeflex Filtration Engineer — without obligation on our part.

NAME ____
TITLE ____
COMPANY ____
ADDRESS ____
CITY ____ ZONE ____ STATE ____

If you write maker identify as IEN - 11327

FASTENING . . Plastic sleeve expands to anchor a screw in a panel

Source: AMERICAN PLASTICS CORP.
342 Madison Ave., 16th Floor, New York 17, N. Y.



Drill, place, tighten

Plastikhold is a new cellulose acetate butyrate sleeve with mechanical and elastic properties to apply in a hole in plaster, tile, stone, plywood. Its inner end projects through the material, increases in diameter when a screw is threaded through it to provide a rivet type grip on the rear panel face. It also can be employed in a blind hole to expand and grip within the hole as a regular expansion anchor. The unit is available for No. 6 to No. 10 screws. It will hold in place without tending to cause a crack.

If you write maker identify as IEN - 11328

CORROSION PROOFING . . Rubber sheet glass fiber reinforced, for structures

Source: RUBBER & PLASTICS COMPOUND CO.
30 Rockefeller Plaza, Room 1519, New York 20, N. Y.

17.5 cents per square foot

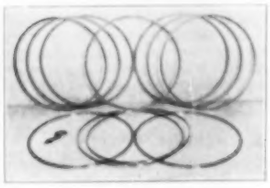
Glass fibers, synthetic rubber and asphalt compounds are combined to produce a new sheet material known as Nerva-Clad. It is suited to water proof concrete structures, tanks, tunnels, to corrosion proof structural steel, metal tanks, pipe lines. The sheet is not subject to attack by moisture or mildew.

The synthetic rubber in which the glass is embedded presents an impermeable barrier even under hydrostatic pressure. The sheet is flexible and resilient. It wraps easily and fits snugly on any contour of structural steel, concrete, masonry or pipe line. It is applied to a wall with hot asphalt or cold fibrated mastics. The same materials can be used for lap-sealing and spot bonding. The material is supplied in rolls measuring 38 in. in width by 72 ft. in length.

If you write maker identify as IEN - 11329

BEARING . . Precision ball design, characterized by very small section

Source: KAYDON ENGINEERING CORP.
46 Thomas St., Muskegon, Mich.



Made to order

Illustrated is a new bearing designed and manufactured by the company in which the section dimensions are 0.750 in. radially and 0.375 in. in width while the outside diameter is 17.625 inches. The design is highly specialized for specified requirements and is an addition to the line of special bearings which the company is prepared to supply between 4 and 120 in. in outside diameter.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11330

HOWE Scales

77 NEW PROJECTION TYPE WEIGHT INDICATION

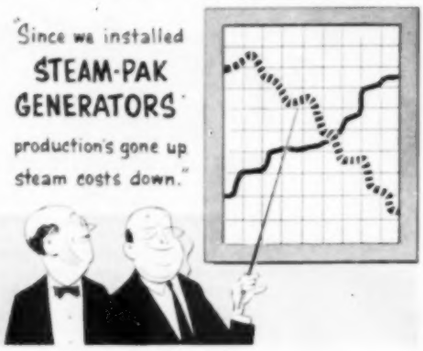
Here is the latest development in automatic scale indication! The new HOWE 77 WEIGHTOGRAPH —a weighing accessory which can be attached to any make of beam scale. Modern optical projection and eye-level periscope instantly flash exact weight in large, illuminated, crystal-clear figures under all sorts of light including daylight. Check the many "plus" features of the 77 HOWE WEIGHTOGRAPH for simple, fast, accurate and trouble-free weighing on your beam scale.

Write for descriptive folder Form No. 668 Dept. IE-10

The HOWE SCALE Co.
RUTLAND, VERMONT

If you write maker identify as IEN - 11331

"Since we installed STEAM-PAK GENERATORS production's gone up steam costs down."



Steam-Pak's file of installations shows case after case of unbelievable cost savings. These modern automatic power plants high or low pressure are ideal for plant expansion where more steam is required because they can be installed where you need the steam without expensive stack or boiler room construction. Money savers on replacement jobs too!

FREE! 14-page Steam-in-a-package booklet gives specifications, operating data, applications, etc. Get your copy of 201-J today.

YORK-SHIPLEY, INC., YORK 13, PA.

If you write maker identify as IEN - 11332

MILLIONS

IN STOCK FOR IMMEDIATE DELIVERY

MACHINE SCREWS

all popular sizes with nuts. Steel or brass, slotted or Phillips head. Maximum discounts.

Write—Wire—Or Phone!

STERLING BOLT CO.
387 WEST ERIE STREET • CHICAGO 10, ILLINOIS
Telephone: SUperior 7-3000 Teletype CG 488
Cincinnati, Indianapolis, Milwaukee, St. Louis

If you write maker identify as IEN - 11333

IS THERE A "BEST CHOICE" IN LOCKS?

You bet there is . . . and it's DUO and ILLINOIS locks . . . with hundreds of styles and sizes in cabinet locks for wood or metal installations available for **original equipment** applications.

DUO LOCKS—Finest in lock quality—practically unlimited key specifications—virtually pick-proof—non-duplicatable style keys.

ILLINOIS LOCKS—Economy priced cylinder locks—many key changes—construction avoids failure due to dirt or freezing. Illinois lock engineers are always ready to cooperate with you in working out special locking problems. For complete service, call Illinois first.

ILLINOIS

THE ILLINOIS LOCK COMPANY
808 S. ADA ST. • CHICAGO 7, ILL.

If you write maker identify as IEN - 11334

ONE QUICK TWIST

● Insert a drill or any other shank tool in an Ettco-Emrick Keyless Ball Bearing Drill Chuck, give the chuck body a twist, and you're ready to operate. It's as simple as that. No key is needed, and scored shanks, drill slippage and retightening are eliminated. The chuck is self-centering and self-tightening. Get the full story today.

Sizes for all makes of drill presses and electric drills. Capacities range from No. 0 to ½".

Send for BULLETIN No. 7

ETTCO TOOL CO., INC.
407 Johnson Ave., Brooklyn 37, N. Y.
Detroit • Chicago • Worcester

Ettco-Emrick KEYLESS DRILL CHUCKS
Sold through leading distributors everywhere

If you write maker identify as IEN - 11335

ATLAS FILE OF TIME SAVING... MONEY SAVING... EQUIPMENT

SCAFFOLDS

HI-LIFT EXTENSION SCAFFOLDS

Models extend from 6 ft. 8 in. to any desired height. Hand or electrically operated. Comes to you ready for work — no erection required, no loose parts. Built to meet individual requirements. Ideal for Painting, Lighting, Cleaning, and all overhead maintenance. Pays for itself in time and labor saving.

LADDERS

HI-LIFT PORTABLE WORK PLATFORMS

For Overhead Maintenance, Painting, Lighting, Cleaning, etc.

- No Erection Required
- Use at Any Height
- Safe, Sturdy, Dependable
- No Loose Parts
- Easily Rolled . . . Easily Raised

Sturdy, all welded steel construction means absolute safety . . . outrigger brace prevents tilting or rolling. Small enough to pass through doorway, yet raises to 20 ft. Endorsed by leading concerns.

LOADERS

ATLAS ONE-MAN TRUCK LOADERS

"The Portable Loading Platform"

- 1 to 3 ton capacity
- Up to 20 ft. range
- Easily moved on retractable casters

Standard platform 4 ft. x 4 ft.— other sizes to meet your requirements. Electrically operated with either floor or platform control or both. Rugged, all welded steel construction. No strain . . . no exertion with Atlas One-Man Truck Loader.

Write for Complete Information

ATLAS INDUSTRIAL CORP.
847 39th Street, Brooklyn 32, N. Y.

If you write maker identify as IEN - 11337

LUBRICATING . . Pneumatic equipment delivers air-oil mist to bearings

Source: ALEMITE DIVISION
1828 Diversey Parkway, Chicago 14, Ill.

Low oil stops action

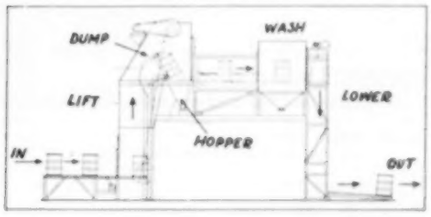
Reservoir units with 12-oz. and with 1-gal. oil capacity are now assembled to signal or to open a motor control circuit to stop a machine when the reserve oil reaches a predetermined low level in the company's Oil Mist lubricator line previously described IEN-10395-50. Minimum level is 23 oz. of remaining oil in the 1-gal. reservoir. It is 2-oz. in the 12-oz. assembly. The level-controlled switch can be set normally-open to close an audible or visual signal. It is set normally-closed to open the machine drive circuit.

Low pressure air, about 10 lb., is employed to vaporize the oil and carry it in suspension through a main tube to branches connecting with outlet fittings at the bearing points. The air and oil enter each bearing. The air assists in cooling. It also sets up a slight internal pressure that will exclude foreign matter. There is no drip. Very little oil is used. A solenoid valve starts and stops the action in step with operation of the lubricated machine.

If you write maker identify as IEN - 11338

HANDLING . . Automatic equipment empties and cleans 40 drums per hour

Source: GIFFORD-WOOD CO.
3 Hudson Ave., Hudson, N. Y.



Particularly for process plants

New assembly of conveying equipment, elevators and washing equipment makes up an automatic machine to take filled drums, lift and discharge them into a hopper, transfer them into a washing unit, lower and discharge them clean ready for reloading.

The equipment will take a 30 or 50-gal. drum to discharge the contents, to clean it both inside and outside and blow it dry. Doors close the various compartments so one operation does not interfere with another. Operation can be observed through glass windows and panels in the dust-sealed doors.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11339

Couch Phones Pay Dividends

If you are fed up with busy signals, excessive switchboard traffic, high phone bills, and time-wasting non-business calls . . . Couch Phones offer a solution. Expensive? No . . . not when you consider that you are now paying for them many times over through these same high phone bills and lost time due to busy signals and personal calls.

Couch Autophones combine privacy with the convenience of individual dial operation; and their original cost is the last cost. Investigate the advantages of Couch Inter-com Phone Systems. Write today for Bulletin 5282.

S. H. Couch Company, Inc.
NORTH QUINCY 71, MASSACHUSETTS

If you write maker identify as IEN - 11340

Send For Your Free Copy

SLIPPING ACCIDENTS? Write for Booklet A-3

This Free 8-page Booklet Shows You How To End Them with A.W. ALGRIP

ABRASIVE ROLLED STEEL FLOOR PLATE

- A.W. ALGRIP is the world's only Abrasive Rolled Steel Floor Plate.
- Wet or dry, ALGRIP prevents slipping—even on steep inclines!
- Light, tough—thinner sections can be used.
- Easy to install—needs no maintenance.
- Over 1001 plant and product applications—wherever men walk or climb.

THERE'S NEVER A SLIP ON A.W. ALGRIP

A.W. ALGRIP

ABRASIVE ROLLED STEEL FLOOR PLATE

Product of ALAN WOOD STEEL COMPANY

Conshohocken, Pa.

Over 125 Years of Iron and Steel Making Experience

Other Products: PERMACLAD Stainless Clad Steel A. W. SUPER DIAMOND Floor Plate • Plates Sheets • Strip • Alloy and Special Grades

If you write maker identify as IEN - 11341

an ACCO product

CAMPBELL ABRASIVE CUTTERS

Model 406

Reduce Cutting Costs

● Make fast, accurate, close tolerance cuts from hard or soft, round, hex, square, or shaped stock. Work and wheel thoroughly cooled. Wheel entirely enclosed in steel safety guard. Many models. Many automatic features.

Write for "Principles of Abrasive Cutting."

ACCO

CAMPBELL MACHINE DIVISION
AMERICAN CHAIN & CABLE

CAMPBELL Abrasive Cutters

941 Connecticut Ave., Bridgeport, Conn.

If you write maker identify as IEN - 11342

Marking nuts — Marking connecting rods and caps

Mark More Parts per Minute

Whether your problem is the marking of nuts, bolts, connecting rods, axles, pots and pans or the branding of screw drivers, pencils, baseballs or ammunition belts—it will pay you to investigate the Automark. This automatic high-speed pneumatic marking machine needs no special jigs or fixtures for average work. Where holding devices are required several standard automatic fixtures are available. We'll gladly design and build special equipment. Write for Bulletin 712.

NEW Electric Typewriter marks metal name plates in one-fifth the time.

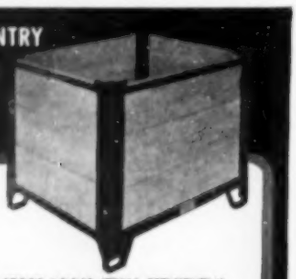
AUTOMARK
Automatic Marking MACHINE
Manufactured Exclusively By

AGENTS
Desirable territories open for responsible representatives. Write giving complete information, lines carried and territory covered.

DEFIANCE MACHINE & TOOL COMPANY
1926 South Vandeventer Ave. • St. Louis 10, Mo.

If you write maker identify as IEN - 11343

FOUR WAY ENTRY
STEEL BOUND
SKID BOXES



BOLLAWAY SKIDS

SECTIONAL BINS

SKID

STORE LOOSE ITEMS EFFICIENTLY
SAVING FLOOR SPACE BY
UTILIZING AIR SPACE

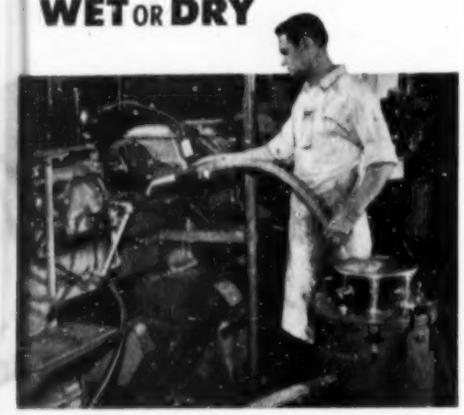
Available plain or with corner tiering pockets for stacking three or four units high. Rugged arc-welded under-frames. Corner angle rounded for safety.

THE LANHAM COMPANY, 1405 S. 12TH STREET, LOUISVILLE, KY.

LANHAM
FOR LIFETIME

If you write maker identify as IEN - 11344

FOR FAST, THOROUGH, CLEANING
WET OR DRY



It's the G-E Heavy-Duty Cleaner

Try this G-E portable unit on your cleaning job — you'll find it without equal! Unskilled help takes to it in a hurry; and your janitorial department jumps in efficiency.

These compact G-E cleaners are powerful, with a full one horse-power vacuum unit. Their low weight, only 51 pounds, makes them easy to roll along aisles and around machinery. This flexibility of use minimizes disturbance of normal business operations.

Nozzles are extra wide for fast coverage of flat surfaces, while other attachments speed the cleaning of hard-to-reach areas. It takes only an instant to change the unit to a blower.

This G-E works just as well on wet cleaning—just needs a quick change from filter bag to wet pick-up container, and it's ready to gather suds, over-flow, and other slop.

Mail in the coupon for data on what the G-E can do for you.

Heavy-Duty Cleaning Equipment

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, Dept. 22-5535
1285 Boston Ave., Bridgeport 2, Conn.
Without obligation, please send complete details on heavy-duty cleaning equipment.

NAME
FIRM
ADDRESS
CITY ZONE STATE

If you write maker identify as IEN - 11346

DUST COLLECTING . . Portable unit particularly to salvage diamond dust

Source: TORIT MFG. CO.
286 Walnut St., St. Paul 2, Minn.

The dust is sold

New assembly, on casters, of the company's blower equipped filter type dust collector is available with a flexible suction tube for application at grinding machines where diamond wheels are being used. The portable design permits moving the unit from one machine to another to collect dust containing diamond particles. As these particles and the dust collect on the surface of the filter elements a foot pedal is operated to shake them into a storage tray at the bottom of the housing. The reclaimed dust is then returned to companies who will purchase it. The company is prepared to explain the operation of the diamond dust salvage program upon request.

If you write maker identify as IEN - 11347

DYNAMOMETER . . Gear assembly mounted to record transmitted power

Source: UNIVERSAL GEAR CORP.
Martindale & 19th, Indianapolis 7, Ind.

Torque actuates scale load arm

The company announces availability of special designs in its lines of speed reducers and speed increasers in which the housing is mounted on trunnion bearings. It is free to rock and actuate the load arm on a scale so transmitted power can be measured. The geared units are available with ratings to 2,000 hp. and in desired speed ranges maximum at 3,600 to 40,000 rpm. The gears are in a differential assembly for ratios from 3 to 80 to 1. Each unit is built to meet requirements.

If you write maker identify as IEN - 11348

CHUCK . . Work driving dog balanced for use on grinding machine

Source: READY TOOL CO.
554 Ironistus Ave., Bridgeport 5, Conn.

Brass faces on the two jaws of this balanced work driving dog are secured by screws. They present soft surfaces that cannot damage finished or threaded work. Two sizes have capacity from ¼ to 1½ in. and from 1⅜ to 2½ inches. Draw bolts on the two sides provide equal adjusting movement to hold the unit in balance at any position required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11349

ask for
DANLY
precision
DOWEL PINS

Drive easier because tapered leading ends "pilot" Danly Dowel Pins into close fitting holes . . . resist upsetting because they're specially hardened (58 to 60 Rockwell C) . . . meet almost every requirement with two complete size ranges, one standard and one ground .001 oversize for enlarged holes.

Send for this free bulletin for helpful application data and catalog information.

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue, Chicago 50, Illinois

PRECISION DIE SETS . . . DIEMAKERS' SUPPLIES

If you write maker identify as IEN - 11350

Left — Union Special Style 20100 H Bag Closing Machine

Here's how to close MULTIWALL PAPER BAGS

FOR lower production costs . . . stronger, neater closures . . . ability to get out rush orders in a hurry, you can't beat Union Special Bag Closing Machines! Specially built to stand up under heavy production schedules, these machines provide the high output rates needed to meet modern competitive conditions.

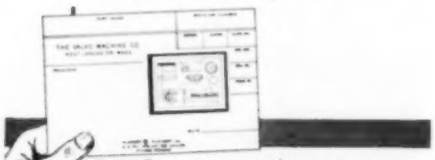
In the Union Special line, it's easy to find the right unit to meet your particular requirements. ASK FOR RECOMMENDATIONS.

SEND FOR THIS BULLETIN!

Get your copy of this 16 page illustrated bulletin containing helpful data and charts on the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE CO., 410 North Franklin Street, Chicago 10, Illinois

UNION SPECIAL

If you write maker identify as IEN - 11351



Film It, File It . . Find It!

Have you found out how to increase the capacity of your engineering drawing vault at no additional cost?

The answer is Filmsort. This tested and proven microfilm method pays for itself in space and filing equipment saved.

Filmsort gives you a security microfilm copy plus a working copy of each drawing by inserting the individual microfilm frame in a Filmsort card.

More than a million and a half drawings are in Filmsort cards now. Why not add yours? Send for free literature.

FILMSORT Individualizes Microfilm!

. . . It's in the cards

FILMSORT INC.
DEPT. I . PEARL RIVER
NEW YORK

If you write maker identify as IEN - 11352

When you think of
STAINLESS STEEL
FASTENINGS
think first of
ANTI-CORROSIVE

Anti-Corrosive has millions of stainless steel fastenings in stock for immediate delivery . . . plus exceptional production capacity that can fill your requirements beyond stock items faster, *better!*

FREE — Write for Slide-Chart 52T which instantly identifies A-N nos. pertaining to stainless fastenings.

25 YEARS OF EXPERTISE IN FASTENERS OF STAINLESS STEEL

Anti-Corrosive Metal Products Co. Inc.
Manufacturers of STAINLESS STEEL FASTENINGS
CAMDEN 20, NEW JERSEY

If you write maker identify as IEN - 11353

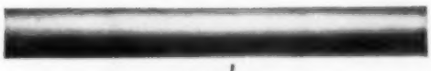
THE new Skinner X5 Solenoid Valve is basically the same as the widely accepted and tested V5, but modified to a construction that is Underwriters' approved for Class I, Group D hazardous locations. Small size and lightweight features are retained, and the X5 is low in price because of the many parts which are interchangeable with other Skinner valves. Rating is 10 watts max.; soft, spring loaded seals prevent leakage; internal parts are stainless steel, wide variety of port locations in 1/8" and 1/4" size; most types available for metering; for AC or DC in a wide range of voltages and frequencies; can be mounted in any position; supplied as two-way normally open or closed, three-way normally open, closed or directional flow. *Write today for details!*

SKINNER ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

If you write maker identify as IEN - 11354

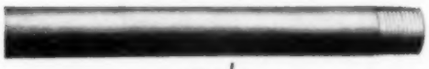
Sherarduct Conduit

LASTS



and

LASTS



and

LASTS

There's nothing temporary about NE's Sherarduct—full weight, threaded, rigid steel conduit. It's the most permanent thing you can buy in wiring. The sherardizing process fortifies it against rust and corrosion by alloying pure zinc dust to the steel wall. Then the baked-on Shera-Solution coating seals the zinc—protects against acid and other corrosive agents. All surfaces, even the threads are securely protected to last a lifetime.

BENDS EASILY right on the job. Will not crack, split or flake.

FISHES EASILY Smooth inside surface. Accurately cut threads permit completely closed joints—no gaps to interfere with easy fishing of wires.

COUPLINGS, ELBOWS Precision made—accurately cut threads—all sherardized for full protection. There's no "weak link" in a Sherarduct installation.

Listed by Underwriters' Laboratories, Inc.

EVERYTHING IN WIRING POINTS TO

National Electric Products
PITTSBURGH, PA.
3 Plants • 6 Warehouses • 42 Sales Offices

If you write maker identify as IEN - 11356

GAGES . . To check steel sheets for drawing and blank holder action

Source: STEEL CITY TESTING MACHINES INC.
8841-45 Livernois Ave., Detroit 4, Mich.

Flex-Tester in use

Flex-Tester Model B-1 is a new bend resistance gage. It is used on steel sheets in connection with a Spherometer to check the probable action of the sheet when it is press drawn into a formed shape. Arbitrary "F" values are read on a dial when the Flex-Tester is positioned over a corner of the sheet and swung downward to bend that corner up. A low "50" range indicates good thawing qualities.

Permanent set in curvature at the corner is then measured by the spherometer. It is graduated in arbitrary "R" values. A reading of 30 or below indicates freedom from stretcher strain during the draw.

The bend test instrument is set up for 0.035-in. sheet thickness as a standard and a conversion device enables the operator to interpret readings on different gages of sheet to a maximum of 0.050 inch. Both instruments are assembled in a carrying case to weigh a little under 14 pounds. Construction of the instruments is in rust resistant materials. A micrometer can be supplied to measure sheet thickness.

If you write maker identify as IEN - 11357

HOSE . . Five standard types replaces eighteen, each is color coded

Source: THERMOID CO.
350 Whitehead Road, Trenton 6, N. J.

Minimizes your inventory

Versaflex trade names one of five standardized types of molded hose that have replaced eighteen different types previously in the line. Multiple braids of rayon yarn enable the hose to handle pressure to 800 pounds. Synthetic oil resistant tube and cover are suited to carry butane, propane, insecticides, oil base sprays as well as compressed air, petroleum products and water. Sizes are 3/8 to 1 in. inside. Length is to 500 feet.

Powerflex is made with asbestos braided yarn reinforced by steel wire braid to carry super-heated steam at pressures to 200 pounds. This hose is made in 3/8 to 2½-in. inside sizes with lengths of 25 or 50 feet.

Utility is a general purpose hose with a black cover. It is designed to handle water and air at pressures to 125 pounds. It is available in sizes from 3/8 to 1 in. and in lengths to 500 feet.

Aquair is identified by a green cover and is available also with a red corrugated or smooth cover when used for acetylene or air. It also handles oxygen and is suited for working pressures to 200 pounds. Sizes are 3/8 to 1½-in. in lengths to 500 ft. and 1¼ and 1½-in. in lengths to 250 feet.

Versicon is a brown covered hose made with rayon braid. It is designed for use with air operated tools, to handle air and acetylene, water, grease, oil, gasoline at pressure to 300 pounds. Sizes are 3/8 to 1½ in. with length to 500 ft. and 1¼ and 1½ in. in lengths to 250 feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11358

SURE SIGN of bearing knowledge

When it's a question of bearing *replacement*, pick up your phone and call your SKF Distributor.

He has the *knowledge* to give you the right bearing—the one that'll get you going again and keep you that way.

Every SKF Distributor Salesman gets a continuing course in the care and application of anti-friction bearings, plus a continuing series of educational films which assure *you* that the man you call has the knowledge you expect.

SKF INDUSTRIES, INC.,
PHILA. 32, PA. — *manufacturers of* **SKF** *and* HESS-BRIGHT *bearings.*

SKF
BALL AND ROLLER BEARINGS

If you write maker identify as IEN - 11359

ENGRAVE

PANELS OF ANY DIMENSIONS
IN YOUR OWN SHOP
with the Engravo graph

The only portable machine which reproduces 15 sizes from one master alphabet.

The only one with adjustable copy holding slides for multi-line engraving in one set-up.

Self-centering holding vise for nameplates.

Send for Booklets
1-S—23 portable model • H—23 heavy duty model

NEW HERMES, Inc. 13-19 University Place, N.Y. 3
In Canada: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

If you write maker identify as IEN - 11360

ROLLED STEEL PIPE FLANGES

for all types of service

18" I. D. TO 144" O. D. CARBON, ALLOY OR STAINLESS STEEL

Inquiries Invited
STANDARD STEEL WORKS DIVISION
BURNHAM, PA.

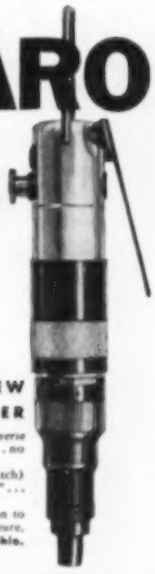
BALDWIN-LIMA-HAMILTON
General Offices: Philadelphia 42, Pa. Offices in Principal Cities

If you write maker identify as IEN - 11361

Another

FIRST by ARO

Instant PUSH-BUTTON Reverse



A REVOLUTIONARY SCREW DRIVER AND NUT SETTER

ARO's new push-button valve means *instant reverse action* . . . no need to remove from work . . . no stopping to turn levers . . . no wasted time.

Adjustable clutch (available with positive clutch) Length 7-11/16" . . . outside diameter 1-5/16" . . . weight 1.4 lb.

This outstanding tool must be seen in action to appreciate its amazing action. Write for literature.

The Aro Equipment Corporation, Bryan, Ohio.
Aro Equipment of Canada, Ltd., Toronto

ARO **AIR TOOLS** Also . . . LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS . . . GREASE FITTINGS

If you write maker identify as IEN - 11362

New! WRICO Lettering Guide!

Now, with Bruning's new WRICO Lettering Guides and non-slip holder, you can letter quickly, easily, *professionally!*

With the new, exclusive skidproof feature, there's no more need for straightedges, weights or thumbtacks. You simply move the guide back and forth in the holder and letter *at any angle* on your drawing. Vertical, slant or italic letters are made by a simple adjustment of the scriber.

Write for bulletin to CHARLES BRUNING COMPANY, INC., Dept. B102, Teterboro, N. J.

BRUNING
Everything for the Engineer and Draftsman

If you write maker identify as IEN - 11363

Noise Reduced 50%*

inside a
BURGESS-MANNING
Acousti-Booth

- Hushed interior . . . a quiet restful place to hear well.
- Light, sturdy construction for ease of moving.
- Doorless construction . . . light, airy, well ventilated . . . easy to keep clean.
- Simple construction . . . no moving parts . . . therefore, easy to maintain.
- Modern in appearance. Suited to any location.

Model 602 Wall Booth

Model 211 Floor Booth

* Based on studies by a prominent research organization.

Write for Bulletin A-107

BURGESS-MANNING COMPANY
Architectural Products Division
5970-A Northwest Highway, Chicago 31, Illinois

If you write maker identify as IEN - 11364

Cuts Photocopy Time To SECONDS

AMAZING NEW PORTAGRAPH COPYFIX

Portable . . . simple to operate . . . Inexpensive to use!

Copyfix is your answer to improved photocopying without time-consuming processing. Copyfix gives you, in seconds, a finished, photo-exact, positive copy of any office record regardless of type or color. Best of all, anyone on your office staff can do the job without previous photographic experience.

GET THE FULL STORY ON COPYFIX

REMINGTON RAND INC. Room 1416, 315 Fourth Ave. New York 10, N. Y.

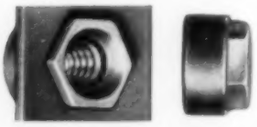
Please send the free booklet P-134 describing in detail this great new unit.

Name ..... Position .....
Firm .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as IEN - 11365

FASTENING . . Clinch nut mounts anchor thread in a thin sheet

Source: GRIP NUT CO.
319-6 S. Michigan Ave., Chicago 4, Ill.



Permanent assembly

Hexagon pilot on the main threaded body of this new Gripco clinch nut is designed to fit into a hexagon hole pinched in a metal sheet. The nut pilot is then pressed down and flattened to clinch the nut in place. The flat faces prevent the nut from turning when a bolt or stud is applied or removed.

Application can be made in sheets of aluminum, brass and other metals that cannot be projection welded. Sizes range from No. 8-32 to ½ in. in either National Fine, National Coarse or the company's deflected locking thread.

If you write maker identify as IEN - 11366

METAL TREATING . . Etching material gives velvet like finish to aluminum

Source: OAKITE PRODUCTS INC.
116-A Rector St., New York 6, N. Y.

Appearance is pleasing

Composition 60 is a new white granular material for solution in cold water to use in a dip tank with concentration of 2 to 6 oz. per gallon and temperature between 140 and 180 degrees. Aluminum work pieces are immersed in the solution for 15 sec. to 2 min. to come out with a velvety finish and with most scratch and die marks eliminated. A hot or cold rinse completes the process. The parts are desmutted employing the company's Compound 34.

Operation results in a light soft sludge forming on the tank walls and heating coils. The sludge can be removed with a stream of water. Fuming and foaming are minimized. The solution is added to as required and can be employed for as long as four weeks before it requires dumping.

If you write maker identify as IEN - 11367

WOOD WORKING . . Radial saw, blades to 16 in., power cross feed

Source: DE WALT INC.
63 Fountain Ave., Lancaster, Pa.

Assists the operator

New design of the company's Model GE radial saw, previously described IEN-686-48, is now available with an arm-mounted power cylinder to apply air pressure for the cross feed movement. Cylinder control centers at a foot valve. The machine will handle work to 2 by 18 in. for power operated cutoff. The cylinder can be removed quickly to return the machine to normal manual operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11368

with MULTI-CLEAN ASPHALT TILE PRESERVER and THE MULTI-CLEAN METHOD

"We spend 65% less maintenance time on our asphalt tile floors and have cut our material costs in half since using the Multi-Clean Method," says the maintenance director at Seeger Refrigerator Co., St. Paul, Minn.

Multi-Clean Asphalt Tile Preserver and the Multi-Clean Method apply to old and new asphalt tile floors . . . add years to their life, impart a new beauty-clean appearance and sure footing. No wax is required for a bright and gleaming surface.

Maintenance in the Seeger offices includes daily dry dust mopping and damp mopping with cold water followed by machine buffing with a No. 0 steel wool disc every 3 to 4 days. A new application of Multi-Clean Asphalt Tile Preserver is made 4 times a year.

Write Multi-Clean Products, Inc., Dept. J2-50 for details

Multi-Clean 9-Job Floor Machine

Multi-Clean Wet-Dry Vacuum

MULTI-CLEAN
2377 Ford Parkway
ST. PAUL 1, MINNESOTA

free! FLOOR MANUALS—Handy file size, each manual deals with a specific type of floor, its characteristics and care . . . asphalt and rubber tile, terrazzo, concrete wood, linoleum.

If you write maker identify as IEN - 11369

Check the Features that make FRONTIER 40-E

Feather Weight

Rugged Strength

ALUMINUM ALLOY PIPE WRENCHES . . .

Perfect for PIPE FITTING

- ✓ HALF THE WEIGHT of ordinary wrenches for easier handling and effortless work.
- ✓ EXTRA STRENGTH to meet rough usage through use of rugged Frontier 40-E Aluminum Alloy.
- ✓ JAWS THAT WON'T LET GO because of sturdy steel teeth. Replaceable steel inserts for jaws simplify wrench maintenance.
- ✓ GUARANTEED AGAINST BREAKAGE in normal use. Sizes range from 14" to 48" to fit specific jobs.
- ✓ TAKES HEAVY PRESSURE. Man in lower illustration weighs 215 pounds, is exerting full pressure on from wrench jaw! Sizes 14", 18", 24" and 36".

Use the wrench that's expressly designed for pipefitting problems. Insist on FRONTIER Aluminum Pipe Wrenches.

Ask your jobber, or write today to:

FRONTIER BRONZE CORPORATION
4887 Packard Road, Niagara Falls, N. Y.

If you write maker identify as IEN - 11370

Built of heavy, rolled steel plate for extra-rugged service and great versatility, the standard Tenney Zphere Altitude Chamber provides vacuum conditions that simulate altitudes from sea level to approximately 80,000 feet (0.8" Mercury, absolute). Available temperature range is from + 200°F. to − 100°F. Relative humidities range from 20% to 95% at above-freezing temperatures and are limited by the minimum and maximum dew points of 33°F. and 178°F., respectively. Temperature control is held within ± 2°F.

Standard equipment includes electric temperature and humidity recording controllers, altitude gauge, mercury manometer, 8-post terminal panel, and pre-set control for maintenance of altitude. Special features may include high-voltage lead-ins, side viewing windows, hand-operated tuning shafts, high wattage dissipation, utility ports up to 6" diameter. Also stainless steel power shafts, special instrumentation, rapid cooling and heating rates, low temperatures to − 150°F., altitudes to 120,000 ft. Also custom-size chambers.

For further information write:

Tenney
ENGINEERING, INCORPORATED
Dept. C, 26 Avenue B, Newark 5, N. J.

Los Angeles Representative: GEORGE THORSON & CO.
Chicago Representative: SPARTON ENGINEERING CO.

Engineers and Manufacturers of Automatic Environmental Test Equipment

#595

If you write maker identify as IEN - 11372

FLEXIBLE SHAFT TOOLS

Whether you're finishing a casting, a weld, a fine die or stainless steel surface, you'll get the equipment that will do the job best from the best-known name in flexible shaft equipment—Haskins. Here is a company with a world of finishing experience to offer you—and a line of flexible shaft equipment in which long-life, multiple usefulness and economy have never been sacrificed to price.

R. G. HASKINS COMPANY 2647 W. Harrison St., Chicago, Ill.

If you write maker identify as IEN - 11373

At Last!

For Conferences—
Sales Meetings—
Staff Meetings—
Lectures

A TABLET ARM CHAIR THAT *FOLDS!*

The Greatest Advance in the History of Folding Chairs

Undoubtedly, you've wished for a chair like this many times. Now it's here—perfected—ready to go to work for you. Here is permanent convenience and comfort adapted for emergency use—the greatest advance in the history of folding chairs.

The tablet arm is a built-in feature of the chair, not an attachment. It is strong, easy to operate, a marvel of engineering ingenuity (patent pending). For ordinary chair use when the arm is not needed, it folds down, out of the way, beside the chair, and flat *against* the chair for quick, safe stacking. The flat, folded depth of the chair is only 3 inches. The chair can be folded or unfolded in a matter of seconds. It is exceptionally easy to get into and out of this tablet arm chair.

Built throughout with all the famous Clarin insistence on utmost quality, the Clarin Tablet Arm Folding Chair will give years of faithful service. It is a supremely strong X-type chair, self-leveling, welded to insure exceptional strength and quietness. Its cushioned rubber feet, a Clarin exclusive, can't mar the finest floor. It comes with Clarin's famous reinforced seat of 5-ply plywood, or it can be had with fine quality leatherette on seat and back, or on seat alone. Available in wide range of frame and upholstery colors.

Clarin Mfg. Company, Dept. 30,
4640 W. Harrison St., Chicago 44, Ill.

Clarin *There is a Clarin Folding Chair for every purpose and need. Write today on your institution's letterhead for beautiful, new, FREE Catalog of the complete line.*

SINCE 1925 . . . THE ARISTOCRAT OF FOLDING CHAIRS

If you write maker identify as IEN - 11375

INDEXING . . Pneumatic rotary table, electric control, 6, 9, 18 positions

Source: BELLOWS CO.
230 W. Market St., Akron 9, Ohio

Index action is cushioned

The table top which measures 26 in. in diameter and the non-rotating plate on which it rides have been removed from the illustration showing the assembly of this new Model BRET-26 index table. The table is air operated, locked, released and electrically controlled for push button actuation to make 6, 9 or 18 movements in a complete circle.

Coincident with the locking action, an electric circuit is also closed to provide an impulse source for operation of auxiliary equipment or to initiate a machine cycle such as drilling, milling, threading for which the table is alternately presenting and advancing work pieces. Control connections and the push button operating circuit are completed to a terminal box mounted on the outside of the table. Fixtures can be mounted directly on the table top or to an auxiliary top for application or removal as an assembled unit.

Three pneumatic cylinders are employed in the assembly. One shown at A is double acting design to operate the rack and pinion that drives and retracts the pawl B to advance the table. The second cylinder at C is air loaded under constant pressure to hold the pawl against indexing teeth beneath the table. The third cylinder, double acting design the same as the first one, is located beneath the table at D to raise and retract a tapered locking pin. This pin engages hardened bushings to hold it in its indexing positions with accuracy to plus or minus 0.001 inch.

Cylinders A and D are connected into the electric control circuit through the company's double solenoid Electroaire control valves E and F. These valves operate on 8 volts supplied through a transformer that forms part of the complete equipment for operation from a 110 or 220-volt supply line. The solenoid valves are connected through pressure and impulse switches in a complete control circuit so the indexing action will proceed through its sequence of release, advance, lock and advancing cylinder retraction to reset for the next release. The assembly includes a lubricating unit, 6 ft. of ⅜-in. pneumatic hose and couplings and one coupler for connection to an air supply line.

If you write maker identify as IEN - 11376

ELECTRIC WIRE . . Plastic insulated, flat parallel conductor for telephones

Source: WHITNEY BLAKE CO.
1563-67 Dixwell Ave., Dept. F, Hamden, Conn.

Please note our error

We stated, in error, that Rassick Company makes the stapling tool used to install the company's new wire, previously described IEN-8569-52. We should have named Bostitch Inc., as shown in our description of the new tool in the same July issue in IEN-7218.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11377

STEAM

FOR HEAT OR PROCESS

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 417

SUPERIOR COMBUSTION INDUSTRIES, Inc.
Factory: Emmaus, Pa.
Exec. Offices: Times Bldg., Times Sq., New York N. Y.
SUPERIOR STEAM GENERATORS

If you write maker identify as IEN - 11378

Save Installation Time!

SPECIFY AN ALLIS-CHALMERS COMBINATION STARTER

When you need both a magnetic starter and the protection of a safety switch, a neat installation can be made quickly with an Allis-Chalmers circuit breaker type combination starter. Starter and switch are factory assembled and wired in a single enclosure to save you installation time and space.

You get a starter that has long-lasting contacts, non-carbonizing arc chambers and easily accessible parts. The circuit breaker gives short circuit protection . . . serves as a disconnect switch.

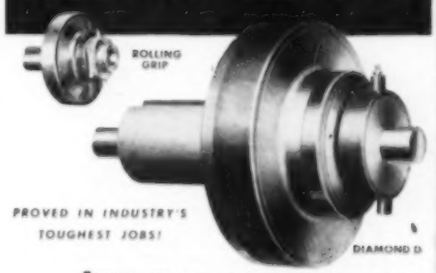
Combination starters are available in sizes 0 through 5 for motors from fractional to 200 hp. 110-550 volts.

Remember, there is an Allis-Chalmers starter for every motor need. All are designed and constructed for long life, easy inspection, speedy installation. Bulletin 14B7152 describes manual, magnetic, combination, and reversing starters for 110-550 volt motors. Contact your nearby A-C representative, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3715

ALLIS-CHALMERS

If you write maker identify as IEN - 11379

DODGE
FRICTION CLUTCHES



ADVANCED design and engineering mark the complete Dodge line of friction clutches, in a full range of sizes, with capacities from 1/3 hp. to 470 hp. Rolling Grip clutches have no toggles, combine ease of control with positive drive. Diamond D clutches, compact, fully enclosed, have stamina for grueling service. For detailed information write

DODGE MANUFACTURING CORPORATION, 600 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

If you write maker identify as IEN - 11380

Delpark COOLANT FILTERS

FOR GREATER GRINDING EFFICIENCY

Grinding problems can be minimized and production increased with Delpark Full-Flowing, Self Cleaning Coolant Filters. Complete and continuous filtration of soluble oils and cutting oils removes heat-bearing solids as coolant comes from the work. Assures more uniform limits, better finish, and greater accuracy with a clean wheel and lower coolant temperature. Fully automatic, no down time for cleaning reservoir, extends coolant life. Two to several hundred gallons per minute capacities.

- Less wheel dressing
- Longer wheel life
- Uniform coolant temperature
- Lowers rejections
- More accurate gauging

Delpark
INDUSTRIAL FILTRATION
Backed by 30 Years Experience in Industrial Filtration

Write for more complete information

INDUSTRIAL FILTRATION COMPANY
5110 Industrial Avenue • Lebanon, Indiana

If you write maker identify as IEN - 11381

ARMSTRONG
Drop Forged
LATHE DOGS

ARMSTRONG Lathe Dogs give extra service because they are drop forged from selected open hearth steel and are heat treated to extreme toughness and stiffness. Hubs are made large enough to permit re-tapping, screws are also of special analysis steel and are hardened at the point to prevent upsetting. ARMSTRONG Dogs come in 16 types with square head or safety headless screws, with straight or bent tails. They are carried in stock by your local ARMSTRONG Distributor.

Write for catalog

ARMSTRONG BROS. TOOL CO.
5243 West Armstrong Ave.
Chicago 30, Illinois
New York and San Francisco

If you write maker identify as IEN - 11382

EASIEST WAY OUT OF A TIGHT SPOT

"YANKEE"
Offset Ratchet Screw Driver

If there's an inch of clearance above or below the screw and room alongside to move your hand even half an inch, you can drive or draw that screw easily, quickly with a "Yankee" Offset Ratchet Screw Driver No. 3400. Only 3¼" long, yet it has the power of a heavy, rigid 8" driver, will seat even a No. 14 screw. Two blades, ¼" and ⅜". Special alloy steel, hardened and tempered. Other models: No. 3800 for larger screws, No. 3423 for Philips Screws; also No. 3600-S Kit with handle and interchangeable adapters for hollow set and cap screws. All ratcheted to give fast, powerful action with the slightest swing of the arc. Sold by industrial distributors.

Write for the "Yankee" Tool Book

"YANKEE" TOOLS NOW A PART OF
STANLEY
Reg. U.S. Pat. Off.
THE TOOL BOX OF THE WORLD
NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

If you write maker identify as IEN - 11383

SAVE TIME AND MATERIALS

Oil-hardened tool steel tapered pin gages accurate to +0.0001"—0.0000" insure dependable sizing and location of holes and slots for machinists, set-up men, tool and die men, inspectors, all who need precise hole measurement.

CONCENTRIC TAPER on lower half of each gage fits holes 0.0012" smaller than standard letter, fraction, and number size drill holes. Makes insertion easier. Permits gaging of odd-size holes and slots.

ALL GAGES are 1½ inches long. Sets contain a pair of each size in a plastic case with 4-place decimal equivalents of each size plainly marked.

ALL ITEMS STOCKED FOR IMMEDIATE DELIVERY

THE Horberg GAGE COMPANY
21 STAPLES ST., BRIDGEPORT, CONN.

Quantity
Letter sets @ $65. Please Rush checked items and therefore to
32 gages (A-Z)
Fraction Sets @ $35.
80 gages ⅛ to 1½" company
in ⅛" steps address
Number Sets @ $95.
130 gages (1 to 80) name
Single gages @ $1.
Stand alone @ $10. title

If you write maker identify as IEN - 11384

CONTROL . . Photoelectric equipment desired to insure continuing action

Source: AUTOTRON CO.
Box 722-C, Danville, Ill.

Sensitive, dependable

The light source in this new Bulletin SM-52 photoelectric equipment employs a two-filament lamp. When the active filament burns out, the circuit switches itself to the other filament and a built-in pilot light indicates that the partly burned out lamp should be replaced. A safety relay in the photo-amplifier circuit will not close until the amplifier is warmed and ready to operate. This relay opens when the tube filament fails. The circuit positively energizes the plate relay with a very small change in light for positive dependable operation.

Assembly of both the light source and the receiver amplifier are in aluminum housings. Shields with internal compression springs hold the tubes firmly in place. The equipgizes the plate relay with a very small change in light.

If you write maker identify as IEN - 11385

PLASTIC . . Black and brown urea molding materials feature low cost

Source: LIBBEY-OWENS-FORD-GLASS CO.
2114 Sylvan Ave., Toledo 6, Ohio

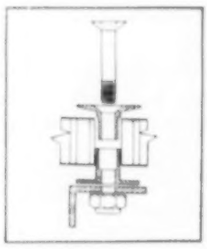
18¾ cents per pound, over 10 ton

Buttons, buckles, bottle caps, stove and refrigerator parts, premiums, electric component parts are typical examples of products that can be molded with the company's new black and brown urea plastic materials. Both are non-bleeding when immersed in water. They are light fast, uniform in color, stable and easy to mold. Shrinkage is 0.006 to 0.014 in. per inch.

If you write maker identify as IEN - 11386

FASTENING . . Metal spacer prevents deforming flexible structure

Source: DELRON CO.
5222-26 Southern Ave., South Gate, Calif.



Installs by hand

Grip length ranges from 1/16 to 1 in. and screw sizes from No. 8 to ¼ in. in this new Fasco Spacer. It is manufactured by the company under exclusive license from its patent holder. It is intended particularly for assembly of double wall structures and as a means to provide solid bolt shoulders in attaching conduit, cable, instruments and equipment to the structural panels. The two parts are made of aluminum and are anodized to specification. An interference fit of 0.002 to 0.005 in. assures firm mating and aligned grip.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11387

Giant new 4th Edition contains 62 new photographs, 132 new drawings, 72 pages of helpful data covering basic and advanced welding techniques and designs used in fabricating and assembly. Profusely illustrated with application drawings; weld diagrams; tables of melting temperatures, strengths, corrosion factors; charts; alloy recommendations; etc. Convenient digest size.

This just-off-the-press book is "must" reading for anyone engaged in defense production and design, and will certainly be time profitably spent for any production man.

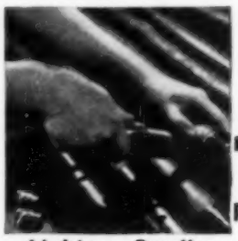
SEE . . . The unbelievable savings in metal-joining which can now be yours through the use of "Low Temperature Welding Alloys"® discovered a few years ago and now used in over 78,000 industrial plants throughout America for more efficient metal-working production as well as for salvaging irreplaceable tool and machine parts.

Over 100 different, new, EUTECTIC Low Temperature WELDING ALLOYS® and EUTECTOR® Fluxes are job-engineered for use on ALL metals—cast iron, alloy steels, aluminum, copper and nickel alloys, die castings, overlays, etc., and may be applied with ALL heating methods—torch, arc, furnace, induction heating, etc.

SEND FOR YOUR COPY TODAY!

EUTECTIC WELDING ALLOYS CORPORATION
172nd Street at Northern Boulevard • Flushing, New York, N. Y.

If you write maker identify as IEN - 11388

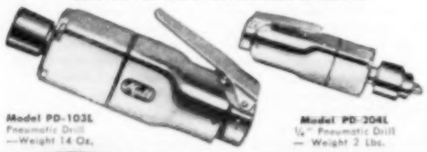


Work EASIER — FASTER with Mall
"Mighty Midget"
PNEUMATIC DRILLS

Lighter — Smaller — More Powerful Than Any Similar Type Tools . . .

You can't beat the handling ease of a Mall "Midget" Pneumatic Drill . . . Weighs less than a pound in your hand — with lever or button throttle for added convenience. Attachments for wire brushing, grinding, rotary filing, sawing and sanding fit directly into chuck. Equipped with latest type "noise silencer" for quiet operation. Drills come with Kett 3-Jaw chuck spanner and open-end wrench, lubricant, and ¼" x 8' air hose. *Send for Descriptive Bulletins.*

40 Factory-Owned Warehouses, Coast to Coast, To Serve Our Customers And Thousands of Dealers.



Model PD-103L
Pneumatic Drill
—Weight 14 Oz.

Model PD-204L
¼" Pneumatic Drill
— Weight 2 Lbs.

Mall MALL TOOL COMPANY
7782 S. Chicago Avenue • Chicago 19, Illinois

If you write maker identify as IEN - 11389

Industrial Fabrics

Cottons, Nylons and other Synthetics

MADE TO GOVERNMENT SPECIFICATIONS

Reeves offers a wide range of fabrics adaptable to many industrial uses. If your industry has problems involving the use of fabrics, Reeves can help you solve them. Write or call now.

REEVES BROTHERS INC.
W. Harris Thurston Division
54 Worth Street, New York 13, N. Y.

If you write maker identify as IEN - 11391

ECONOMICAL

STAMPED PARTS IN SMALL QUANTITIES

Yes, it *is* possible—but it's a special skill of ours.

It's done with a new price-slashing method of making dies, used in conjunction with special machinery. In other cases we use custom equipment for die-less duplication by our own Machine-Cut Method.

FOR EXPERIMENTAL OR PRODUCTION REQUIREMENTS at rock-bottom prices, send us your blueprints. And make sure you get our latest, fact-packed literature.

STAMPINGS DIVISION
"ONE PIECE OR ONE MILLION"
LAMINATED SHIM COMPANY, INC.
2110 UNION STREET • GLENBROOK, CONNECTICUT

If you write maker identify as IEN - 11392

Which Milling Cutter would you choose

✓ CHECK ONE

1. ____ a SOLID cutter with rigid tooth back-up.
2. ____ an INSERTED TOOTH cutter with replaceable blades.
3. ____ A MILLING CUTTER THAT COMBINES THE ADVANTAGES OF BOTH.

Check (3) and you've checked

THE NEW MILLIT

Millit's fully backed up blade is seated against a body abutment that absorbs all cutting forces.

This means Millit gives you both a rigid tooth back-up and replaceable blades.

Write for the Millit Folder today. Address:
Millit Div., Kraus Design, Inc.
33A Flint Street
Rochester 8, New York

If you write maker identify as IEN - 11393

AMERICAN ELECTRIC
Model 275
MOTOR ALTERNATOR

1000 TO 1800 WATTS
400 CYCLE POWER SUPPLY
IN LESS THAN A 2 FOOT PACKAGE!

Small, light, compact, equally satisfactory on permanent or portable installations. Low speed—quiet operation. Meets power supply requirements for AN-E-19 equipment. Multiple units efficiently replace one single, large-capacity alternator . . . Save space, cost far less, protect against breakdowns!

NEW PRINCIPLE uses no moving coils, brushes, springs etc. . . . *It's as completely wear-free as its ball-bearings!*

Capacities up to 1000 Watts single phase or up to 1800 Watts three phase. Single or 3 phase common-shaft motor drive. Larger capacities available.

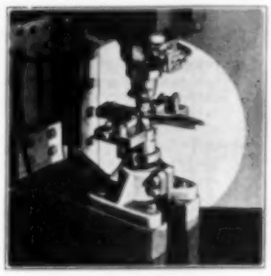
WRITE FOR DETAILS!

AMERICAN ELECTRIC MOTORS
TRADE MARK
4011 Temescal Road, Los Angeles 22, California

If you write maker identify as IEN - 11394

RIVETING . . Projection welder tooled to head rivet in plier assembly

Source: MULTI-HYDROMATIC WELDING & MFG. CO.
23169-73 Grosebeck Highway, East Detroit, Mich.



A specification design

New application of the company's standard projection welder in connection with special adjustable tooling adapts the machine to head the rivet employed as the hinging center in a plier assembly. The machine requires no special preparation of the rivet ends.

The welding dies that perform the heading operation consist of an upper and lower cone collar that come down and hold the parts while interior electrodes, made of Elkonite, make contact with the rivet, heat it and head it. The machine rates 100 kva. and is equipped with heat selector switches, water cooled secondary and compressed air operation with electronic control.

If you write maker identify as IEN - 11395

SANDING . . Waterproof sandpaper is tough and flexible when wet

Source: BEHR-MANNING CORP.
P. O. Box 808A, Troy, N. Y.

Will operate wet continuously

Tufbak Speed-Wet Durite trade names a new waterproof sandpaper for use in wet sanding operations. The abrasive does not tend to peel from the paper backing. The body is resistant to creasing, cracking and curling. The paper is available in the usual strip and sheet sizes to order.

If you write maker identify as IEN - 11396

PULLING . . Chain type tool for wheels, pulleys, rates 17½ ton

Source: OWATONNA TOOL CO.
371 Cedar St., Owatonna, Minn.

Pressure applied by turning crank

New application of the company's 17½-ton hand operated hydraulic ram with a mounting plate and set of hook equipped chains makes up a new two-way or three-way pulling tool for general industrial use. The tool will apply even pull without tendency to cock to one side or the other. The chains are ⅜-in. units testing to 3,720 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11397

Rotate Tip in any direction while flame is burning. Just a twist of the finger or a tap on the side of the tip changes angle of work—fast—easy—while flame keeps right on burning! No time lost shutting off flame, making wrench adjustments, lighting up again. Eliminates "stop-and-go" welding. This new Smith Equipment saves time, speeds up production schedules. Reduces operator fatigue, too. Makes it possible to work in comfortable and convenient positions at all times. Available in Smith's new LIFELONG, MIDLINE and AIRLINE Torches. Write us today.

SMITH WELDING EQUIPMENT CORP.
Dept. IEN-31, 2633 4th St. S. E., Minneapolis 14, Minn.

If you write maker identify as IEN - 11398

Designed for YOU to SAVE for you

Sylphon Stainless Steel Bellows Assemblies

● Used in many ways—as flexible connectors . . . for thermostatic devices . . . expansion joints . . . pressure controls . . . hydraulic mechanisms, etc. Help to solve design problems involving control of temperature or pressure. Made to meet your requirements. Complete manufacturing facilities save you time and money. Stainless steel and other metals. Wide size range. Write for Catalog TN-1200.

FULTON SYLPHON DIVISION
ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 4, TENN.
Temperature Controls • Bellows Devices • Bellows Assemblies
Canadian Representatives, Darling Brothers, Montreal

If you write maker identify as IEN - 11399

Find out how you can get
FLEXMOUNT
Oscillating Conveyors "right off the shelf"

For those difficult conveying jobs, find out about the Link-Belt FLEXMOUNT Positive-Action Oscillating Conveyor. Positive Action assures uniform, gentle movement of fine, lumpy, stringy materials . . . materials in food and chemical process industries . . . sharp, oily chips and turnings . . . hot sintered materials, etc. All-metal, leakproof, compact, low in operating costs. Can be made dust-tight.

WRITE FOR BOOK 2478

LINK-BELT

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia); Sales Offices, Factory Branch Stores and Distributors in Principal Cities. 12.00

If you write maker identify as IEN - 11400

IT'S TIME TO ACT FAST!

talk business in 2 seconds

Reach Anyone Instantly

Boost Output

Cut Costs

SAVE TIME WITH ELECTRONIC AMPLICALL INTERCOMMUNICATION

Gear up now for bigger output and increased efficiency. AMPLICALL provides 2-second speech contact between all departments for fast relay of orders and information. Stops wasteful walking and waiting—keeps plant and office personnel on the job every working minute—takes the load off busy switchboards. AMPLICALL *gets more work done for every operations dollar spent*—pays for itself quickly. Get the full details *today*.

SEE YOUR CLASSIFIED PHONE BOOK under "Intercommunication" for your AMPLICALL specialist, or write us direct

Electrovoicing is our business
SOUND EQUIPMENT — Rauland — INTER-COMMUNICATION
RAULAND-BORG CORPORATION • 3523-K ADDISON ST., CHICAGO 18, ILL.

If you write maker identify as IEN - 11401

Your Best Buy in Burs!

S.S.WHITE BURS cut fast, clean and cool and give long-lasting economical service. Cutting edges are keen — and stay sharp. There's a full selection of sizes and shapes of chromed, and carbide burs for cutting brass, steel, wood, hard rubber, bone or any other material that can be bored or milled by sharp-edged hardened steel tools.

WRITE TODAY for 50-page Catalog T-51

It completely describes the full line of S.S. White flexible shaft tools and other industrial products.

THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO. Dept. H, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Bldg., Long Beach, Calif.

If you write maker identify as IEN - 11402

Some of the Products Our Machines Now are Finishing

- Name and kick plates, trays, decorative hardware, uses
- Industrial jewelry, blanking stock, manicure instruments
- Screw drivers, chisels, pliers, saws, wrenches
- Fine silver—knives, forks, spoons
- Cigarette cases and lighters, compacts, mirror and brush backs
- Surgical instruments
- Fan blades, flat iron sole plates, photogravure stock

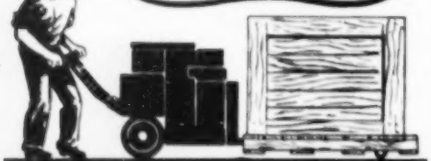
We have the answer TO YOUR SURFACE FINISHING PROBLEM!

For flash removal to mirror finish . . . a Clair Surface Finishing Machine may be the economical solution to your small product finishing problems. From the seven extremely versatile basic designs, a "custom-made" machine may be developed for your particular application. *Write for technical data.*

CLAIR MANUFACTURING CO., INC.
Specialized Machine Equipment For Glazing and Polishing Operations
OLEAN, N. Y.

If you write maker identify as IEN - 11403

FREE! Revolvator's new Truck Index helps you pick size, capacity and type to suit your needs. Send coupon today.



REVOLVATOR CO.

REVOLVATOR CO.
8859 Tonnele Ave., North Bergen, N. J.
Gentlemen:
We want to know, without obligation, all about Revolvator Go-Getter Pallet Type Liftrucks.
Name
Position
Company
Address

If you write maker identify as IEN - 11404

CUTTING . . Portable machine reduces waste brush to small chips

Source: MITTS & MERRILL INC.
107-11 S. Water St., Saginaw, Mich.

Ask for Bulletin H552

Brush Grinder designates new engine driven portable machine into which an operator can feed cut brush and tree cuttings normally difficult to handle, for reduction to chips that occupy a small space. The machine will convert a truck load of brush into a barrel full of chips in about 20 minutes. It will take tree branches and brush, either green or dry, to 6 in. in diameter. It rates 2,000 to 3,000 lb. per hr. in continuous operation.

Drive is by a gasoline engine rating 25 to 40 hp. with operation at 1,800 to 2,400 rpm. The engine connects to the machine through a clutch. The cutting cylinder measures 20 in. in diameter and is driven at about 1,500 rpm. It mounts 8 cutting knives for operation in connection with three stationary cutting bars. The cylinder is mounted on roller bearing pillow blocks. Discharge is through a gate equipped pipe. The assembly can be towed behind a truck or tractor. Its horizontal feed spout has hinged doors that can be closed when it is being moved from one location to another.

If you write maker identify as IEN - 11405

SCAFFOLD . . Telescoping tower raises worker 8½ ft. above ground

Source: ATLAS INDUSTRIAL CORP.
847 - 39th St., Brooklyn 22, N. Y.

Power drive in base

Midget is a new assembly in the company's Hi-Lift line of portable telescoping towers, previously described IEN-5636-52, with lift capacity to 30 feet. The new unit measures 46 in. in height in lowered position. It extends to 8½ ft. above its 27 by 40-in. base. Mounting is on casters. Floor locks secure a set position. A portion of the platform folds down and the guard rail can be removed for storage in a small space.

Identify as IEN - 11406

Your own publicity manager may want to know about a new Publicity Checker book to assist in selection of publications to carry news of your products and plant activities. It covers 2,272 business papers, consumer magazines and farm papers. These are grouped into 99 market classifications. Information is given on each publication as to name and address, name of the editor, frequency of issue, date of issue, circulation and publisher. A 29-page section offers suggestions on preparing news releases and other phases of handling editorial publicity. The 192-page book lists at $10.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11407

NOW ONE MAN CAN DRILL "GREEN CONCRETE" OR GRANITE!

It's EASY, using a power hammer equipped with carbide-tipped *Thunder-Core* or *Thunder-twist*

Drills holes 1-1/8" to 6" diameter. Deep spiral flutes, one for each cutting tip, remove dust speedily and surely. Removable Thunder-Center makes it easy to precisely locate and start holes. Extra-length shanks and special tapers available on request. THUNDER-CORE does the cutting—the hammer does the work.

Drills holes 3/16" to 1-1/4" diameter, up to 24" deep. Spiral vanes, plus straight flutes, with no carbide hang-over at tip. Eliminates dust-packing and binding of bit in "GREEN CONCRETE" DRILLING and increases drilling rate in VERY HARD CONCRETE or GRANITE. THUNDER-TWIST does the cutting, the hammer does the work.

By the makers of Cyclo-Core and Cyclo-Twist. *Send for new Masonry Drill Bit Guide—Helps you choose the RIGHT bit for EACH job!*

New England Carbide TOOL CO., INC.
60 BROOKLINE STREET, CAMBRIDGE 39, MASS.

If you write maker identify as IEN - 11408

Are You Up Against a Tough Sealing Problem?

Our specialty is ***plastic*** compounds for industry . . . compounds used for sealing pipe joints, for caulking, bedding, glazing, etc. . . . compounds that withstand high temperatures and all solvents including acids . . . ***plastic*** compounds that STAY ELASTIC giving long service. Write us about YOUR sealing problems. We are equal to any requirements no matter how "special."

ACID RESISTANT CEMENTS

HI-HEAT COMPOUNDS

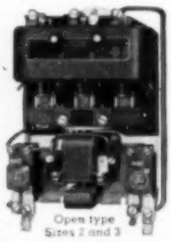
FURNACE AND BOILER CEMENTS

CHLORO-Seal
Chlorine producers save money using this famous plastic compound for sealing in and out pipe and cover joints in chlorine cell operations. CHLORO-Seal stays ELASTIC. It gives permanent protection — providing a cushion seal that won't crack or chip off due to expansions and contractions. Good for temperatures to 300 F. Try CHLORO-Seal for perfect satisfaction!

The ARMSTRONG COMPANY
241 S. Post Street, Detroit 17, Mich. EST. 1911

If you write maker identify as IEN - 11409

NEW—CLARK TYPE "CY" AC COMBINATION MOTOR STARTERS *now available in* **EXPLOSION RESISTING ENCLOSURES**



Open type Sizes 2 and 3

The sensational new CLARK Type "CY" motor starters are offered in a wide variety of types and enclosures for use in such industrial atmospheres as hazardous gas, dust or excessive humidity. Illustrated at right, is the NEMA Type 9 Cast Iron Explosion Resisting Enclosure for hazardous dust locations on a combination starter with circuit breaker.

CLARK Type "CY" starters, sizes 2 and 3, have an entirely new arc-quenching principle which greatly increases contact life, by a constant rotation of the arc on contact surfaces.

Bulletin 6020 Type "CY" AC Combination Starter Size 2 with Air Circuit Breaker.

Write for descriptive literature.

THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL . . . 1146 EAST 152ND STREET, CLEVELAND 10, OHIO

If you write maker identify as IEN - 11410

Stop CORROSION in your Steam System WITH CORAVOL

When fed to your steam system, **CORAVOL:** (1) *prevents* corrosion in steam and condensate lines, (2) *cleans out* clogging rust deposits resulting from previous corrosion. Thus, **CORAVOL** protects lines, increases the effectiveness of heat transfer surfaces, restores original capacity of lines and the operating efficiency of valves and traps.

CORAVOL is part of a complete technical service which provides special chemical formulas for: Boiler Feed Water . . . Foam Prevention . . . Hot Water Supply . . . Refrigerating Brine . . . Cooling and Condenser Water . . . Rapid Scale Removal . . . Coagulation . . . Algae Control.

Write TODAY to Western Chemical Company, 715 Washington Street, Kansas City, Missouri—for complete FREE data about the **CORAVOL** process.

Western Chemical Co. is owner of U. S. Patent No. 2053024 covering the use of volatile amines in steam systems.

WESTERN CHEMICAL CO.
715 WASHINGTON KANSAS CITY, MO.

If you write maker identify as IEN - 11411

Here's BIG HELP IN TERMINAL WIRING!

The correct wire to correct terminal every time!

The New JONES FANNING STRIP

Connections are made through Fanning Strip, on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.

9-141 Barrier Strip

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction: Brass terminals, cadmium plated. Heavy bakelite mounting.

9-161 Fanning Strip. Pat. applied for.

Send for complete data on this new basic improvement!

Jones — HOWARD B. JONES DIVISION, CINCH MANUFACTURING CORPORATION, CHICAGO 24, ILLINOIS, SUBSIDIARY OF UNITED-CARR FASTENER CORP.

If you write maker identify as IEN - 11412

JIG GRINDING ACCURACY *guaranteed*

INFINITE CONTROLLED SPEEDS 30,000 TO 65,000 R. P. M.

Easily connect jig grinder to jig borer or mill

Then you can finish grind in hardened steel to "tenths" . . . jig grind dowel holes square with a ground base . . . move location of holes in hardened steel blocks . . . jig grind interchangeable holes in hardened sections . . . grind small holes with diamond impregnated mandrels . . . grind contours and relief with tungsten carbide burrs . . . grind radii in die sections . . . eliminate jig bushings in tools where close spacing is essential.

Other infinitely controlled air driven spindle applications

Place spindle on most any machine. Use it for finishing contours on hardened steel working surfaces . . . burring or milling die castings . . . routing wood contours . . . carbide milling or finishing slots . . . finishing holes in hardened steel to "tenths" . . . grinding with diamond wheels, carbide burrs, or diamond impregnated mandrels.

Advantages—10 micro finishes using carbide mills . . . 6 micro finishes using mounted points, operates at any angle . . . air driven, air cooled, overheating prevented . . . speed controlled at optimum point . . . 3¼" long motor uses little working space . . . By controlling speed at any point you abolish need for many constant speed spindles.

For immediate quotation please state machine tool application. Get this manual of photos showing operations Vulcanaire performs.

"Dependably accurate to "tenths"

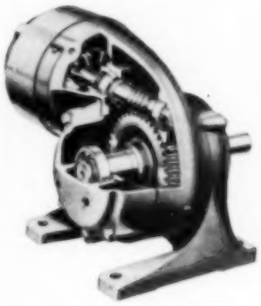
Vulcanaire BUILT BY TOOLMAKERS FOR TOOLMAKERS

VULCAN TOOL CO. 734 LORAIN ST., DAYTON 10, OHIO

If you write maker identify as IEN - 11414

MOTOR . . Geared head design for right angle drive, ¼ to 3 hp.

Source: U. S. ELECTRICAL MOTORS INC. Box 2058-A, Los Angeles 54, Calif.



Type GW Syncro-gear designates this new line of right angle motors with worm geared heads for speed ranges from 20 to 155 rpm. and gear ratios to 58 to 1. The motor is available in single and 3-phase design. Installation can be made horizontally or vertically. Variable speed, splash proof assembly, total enclosure can be specified.

If you write maker identify as IEN - 11415

CLEANING . . Rotary brush machine to scrub, sand, wax and polish a floor

Source: UNITED FLOOR MACHINE CO. 7711-15 S. Chicago Ave., Chicago 19, Ill.

Brush block measures 10¼ in.

Model S-12 is a new 12-in. unit in the company's Aero line of floor machines, previously described IEN-9664-50. It is driven by a ¼-hp. motor for a brush speed of 190 rpm. Mounting is on 3-in. rubber wheels on a retractable carriage. Overall dimensions are 11¾ by 13½ by 10¾ inches, the latter dimension from the floor to the top of the motor including the brush. Operating weight on the brush is 37 pounds. Standard equipment includes 35 ft. of rubber-covered trailing cord and a polishing brush with an attachment plate.

If you write maker identify as IEN - 11416

TRUCK . . Hand hydraulic lift for materials in rolls to 1,000 pounds

Source: SERVICE CASTER & TRUCK CORP. 545 N. Brownswood Ave., Albion, Mich.

Load rides in pan

New design of the company's hand hydraulic lift truck, previously described IEN-559-43, mounts a curved pan to handle rolls of materials such as paper, metals, leather, rubber with weights to 1,000 pounds. Each truck is built to meet individual requirements with mounting on four steel casters, two rigid and two in swivel design. A floor lock also is available. A motor driven lift unit can be specified.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11417

Dependable MEASURING & CHECKING EQUIPMENT

Send for Complete Catalog

and Now HAND WHEELS, KNOBS, HANDLES *Cadmium Plated*

READY TO DELIVER

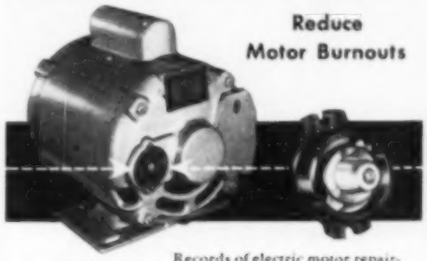
Non-rusting — good looking

We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION 6701 S. McNichols Road • Detroit 17, Mich.

If you write maker identify as IEN - 11418

Motor Repair Shop Experience Proves KLIXON PROTECTORS



Reduce Motor Burnouts

Records of electric motor repairmen throughout the country provide positive proof that Klixon Protectors help prevent motor burnouts in electrical appliances of all types.

Mr. Alfred LaMontagne of the Cape Cod Electric Motor Service Company puts it—"In my ten years of experience with electric motors, I have found that Klixon Protectors save our customers unnecessary repairs. They are tamper-proof . . . and the lowest cost insurance against motor burnouts that you can get."

You, too, can provide your dealers and consumers with motor burnout protection by requesting and specifying that your motor manufacturer supplies you with motors that have Klixon protectors built in. The additional cost is exceptionally low, while the benefits are extremely high.

SPENCER THERMOSTAT *Division of Metals & Controls Corporation* 210 FOREST ST., ATTLEBORO, MASS. **KLIXON**

If you write maker identify as IEN - 11419

UNIFORM

KESTER FLUX-CORE SOLDER

UNIFORM in Alloy and Flux-Content

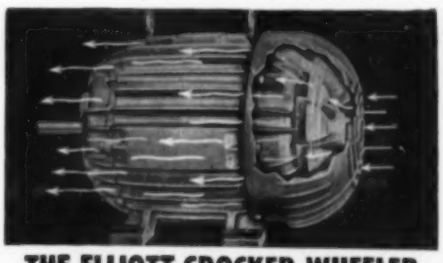
Right down the line, pound after pound, spool after spool, Kester has these features of *uniformity,* so necessary to the best in soldering!

Free Technical Manual. Send for your copy of "SOLDER and Soldering Technique" today.

KESTER SOLDER COMPANY 4211 Wrightwood Ave., Chicago 39 Newark 5, New Jersey • Brantford, Canada

KESTER SOLDER

If you write maker identify as IEN - 11420



THE ELLIOTT CROCKER-WHEELER *Sealedpower* MOTOR

Completely enclosed, there's no way in for dirt, dust, moisture or fumes. But there's an easy out for heat—via the 150% increased radiating surface of the many radial fins, plus the fan-driven air blast along and around the fins and frame. Cleans itself, too—the air blast gives dirt and dust the quick brush-off.

The C-W Sealedpower Motor is ideal for any service within its capacity range—proven by its 10-year service history. Available equipped with the newly designed C-W Brake . . . Also in explosion-proof construction. Bulletins from Elliott Company, Dept. IN, Jeannette, Pa.

CW-31

ELLIOTT COMPANY General Offices & Main Plant Jeannette, Pa.

CROCKER-WHEELER DIVISION . . . AMPERE, N. J. Branch Offices and Representatives in Principal Cities. Elliott Approved Service Shops Cover the Country

If you write maker identify as IEN - 11421

NEW CATALOG contains money-saving tips on repairs!

If wear due to impact or abrasion is a problem to you, here's a book you'll profit by reading.

It's about AMSCO Manganese Steel Weldments—made of the toughest steel known. The harder you use them the harder they get! Furnished in many shapes and sizes, they are easily applied to wearing surfaces. And, they make big savings for you on all types of applications, from dipper teeth to conveyor chutes.

This catalog is complete with Hardfacing Rod selection guide, plus examples of many unique weldment applications.

Write today for Bulletin WA-77 . . . your free copy will be sent by return mail.

AMERICAN Brake Shoe COMPANY — AMERICAN MANGANESE STEEL DIVISION, 415 EAST 16th STREET • CHICAGO HEIGHTS, ILL.

If you write maker identify as IEN - 11422

EASIER, LESS COSTLY

Material Handling ...with powerful, Spur-Geared CHESTER HOISTS

Chester Spur-Geared Chain Hoists are expertly designed and ruggedly built . . . to give you rapid lifting and lowering with the least effort and lowest cost. Made in sizes from ¼ to 2½ tons—and built into a number of special purpose hoists such as Extended Hand Wheel and Low Headroom. Timken Bearings reduce friction on working parts, insure smooth operation and long life. Chester Differential Hoists are also available—in ¼, ½, 1 and 1½-ton sizes. Ask your distributor, or write us, for complete catalog, and tell us your requirements.

FAST SERVICE ON "SPECIALS"

With a modern, compact, completely integrated plant, we can give fast service on special types such as Low Headroom Trolley Hoists. Let your distributor quote on your specifications, or write us direct.

CHESTER HOIST DIVISION
The National Screw & Mfg. Company
Lisbon, Ohio

If you write maker identify as IEN - 11423

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WORLD'S LARGEST STOCKS OF ELECTRONIC SUPPLIES FOR INDUSTRY

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Send today for ALLIED's complete, up-to-date 1953 Buying Guide to everything in electronics for industrial application. Rely on ALLIED for the world's largest stocks of special electron tubes, parts, test instruments, tools, amplifiers, intercom and paging systems—complete, quality lines of electronic supplies for industry. ALLIED's expert Industrial Division saves you time, effort and money. Send today for your FREE copy of the 1953 ALLIED Catalog—keep it handy for easy reference and ordering.

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Name_____
Address_____
City_____ State_____

If you write maker identify as IEN - 11424

PACKAGING . . Automatic machine makes bag, fills with liquid and seals

Source: STOKES & SMITH CO.
5010 Summerdale Ave., Philadelphia 24, Pa.

The fill is positive

New assembly of the company's Stokeswrap automatic machine takes a double run of heat sealing strip material, seals it on two sides to form a tube. Then, following a cross sealing operation, it delivers a measured amount of liquid or semi-liquid from an overhead supply. This is followed by a second cross sealing to close the tube above the liquid fill and, at the same time, to form the bottom of the next compartment in the tube. Individual filled compartments are cut from the tube through the center of the cross seal and the filled units are delivered at the front of the machine.

The illustration shows a double assembly in a demonstration set up. Delivery rate is 150 bags per minute. Materials that can be handled include liquids, creams, oils, greases, juices, lotions, chemicals that will not attack the plastic film.

If you write maker identify as IEN - 11425

THREADING . . Rolling machine threads 19,440 work pieces per hour

Source: D. H. PRUTTON MACHINERY & TOOL CO.
5293-97 W. 130th St., Cleveland 11, Ohio

Specification machine

Model 300 is a new assembly in the company's Rollmaster line of planetary-die thread-rolling machines, previously described IEN-623-51. The new machine feeds hollow set screw blanks from its magazine hopper to the circular die, centrally located on the machine table. The pieces roll at close intervals around the circumference of this die for a 30-in. effective die length. They leave the die at a delivery chute on one side. The machine rolls Class 3 threads into ½-in. 13 set screws made of SAE 1035 steel.

Identify as IEN - 11426

Little center hole through the tungsten contact or "breaker point" employed in a gasoline engine distributor practically stops tendency of the tungsten contacts to "migrate" or transfer metal from one point to the other. Fansteel discovered this fact and now provides these contacts with the hole in the middle. Ventilated is the name for it.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11427

IS RUST EATING AWAY YOUR PARTS INVENTORY?

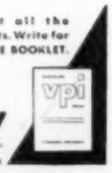
Then you Need MARVELLUM VPI® WRAP
Paper coated with a Volatile Corrosion Inhibitor

Avoid the damages of destructive rust, the loss of time and money spent in refinishing inventory parts, the mess and bother of slushing and cleaning. Wrap your parts—or merely line your bins—with economical Marvellum VPI.

VPI is a paper coated with a new chemical which slowly vaporizes, forming an invisible protective film that prevents corrosion. Used as a wrap it keeps rust away for years. Used as a liner it gives you many months of trouble-free storage. Developed during the war as a protective wrap for shipment of steel and aluminum parts, many companies are also using it to protect their inventories or as a lining for tote boxes on the production floor.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, producing and coating VPI Wraps. Also makers of a wide range of other barrier materials to meet your needs for product protection. Distributors in all major cities.

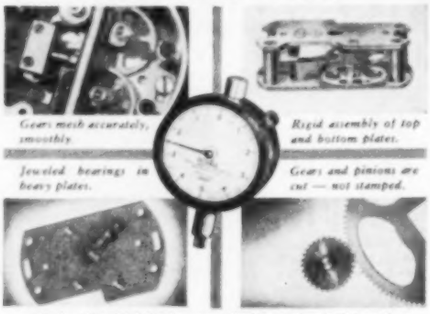
Get all the facts. Write for FREE BOOKLET.



The Marvellum Company
24 APPLETON STREET HOLYOKE, MASS.
First and Foremost in VPI Protection

If you write maker identify as IEN - 11428

The Dial Indicator Built as Fine as the Finest Watch



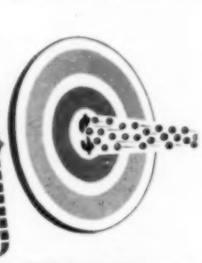
Today the Dial Indicator is built mechanically as fine as the finest watch, for years the standard of comparison for fine manufactured articles. Federal leads in the development of Low-Friction, Low-Inertia, Full-Jeweled Indicators. Federal's top and bottom movement plate construction has long defied improvement. Indicator maintenance men prefer it to all others.

Send for Federal's latest catalog showing the most complete line of Dial Indicators and Indicating Gages. FEDERAL PRODUCTS CORP., 2910 Eddy Street, Providence 1, R. I.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively.

If you write maker identify as IEN - 11429

a Sure Shot for Savings



TRUSTEEL SHOT
cuts blast cleaning costs because it never shatters

When abrasive starts to crumble, it loses its cleaning efficiency. Through annealing, drawing and other processes, the life of some iron abrasives has been increased so they can be sold as premium abrasives. However, a true steel shot is the only abrasive that NEVER SHATTERS. *TRUSTEEL* has the toughness that only steel can give. That's why *TRUSTEEL* Shot lasts longer, cleans faster—costs less in the long run. It is made of high carbon steel that has received a *full* heat treatment, not just drawn or annealed.

LIFE COMPARISON
TRUSTEEL VS. CHILLED IRON SHOT

CHILLED IRON after 50 passes — TRUSTEEL after 1500 passes

TRUSTEEL Shot lasts many hours longer instead of breaking into the millions of sharp pieces that abrade the wearable parts of your cleaning machine. As a result, you not only have less abrasive to buy, but you also make large savings in replacement parts and maintenance labor. *Send for a trial order of TRUSTEEL today.*

THIS BULLETIN GIVES YOU THE FACTS — It shows where the average blast cleaning dollar is spent and how savings can be made. Send for your copy today.

American WHEELABRATOR & EQUIPMENT CORP. — TRUSTEEL SHOT
507 S. Byrkit St., Mishawaka, Indiana

If you write maker identify as IEN-11431

FORMULAS, COSTS, INVENTORIES OF ALL LIQUID STOCKS

Rockwell meters are lastingly accurate guardians, wherever liquids are stored, transported or utilized. You can install them with profit when batch mixing formulas; for inventory records, for cost control. There's a size and type for every need. Write for bulletin.

ROCKWELL MANUFACTURING COMPANY
DEPT. B-5, 400 N. LEXINGTON AVE., PITTSBURGH 8, PA.

If you write maker identify as IEN-11432

NOW, SEE NEW WAYS CARBOLOY MAGNETS SAVE TIME, MONEY IN SHOPS

MAGNET USES

Hold steel plates to conveyors for painting.

Hold models in place on plant layouts.

Hold work for drill press or guiding operations.

Recover tools from dip and coolant tanks.

Shop owners everywhere are now using Carboloy Permanent Magnets to make 1001 money-saving devices around their plants.

As powerful holding, lifting and separating devices, the magnets are being applied to eliminate clamps, jigs, vises, fixtures and other assemblies; to speed setups, production; to retrieve tools from tanks; do any number of jobs better, cheaper, faster than devices formerly used.

POWERFUL

Small Carboloy Permanent Magnets can hold tremendous weights—furnish tremendous pull. Cost nothing to operate.

They provide a permanent source of magnetic energy, too! Give off uniform magnetic energy without wires or operating parts, remain virtually unaffected by heat, moisture or vibration.

You can get low-cost Carboloy Permanent Magnets now in many sizes and shapes. Put them to work for you *plant-wide*. Contact a Carboloy Field Engineer in your area, or write for services below.

Check these three new services!

1. **"Magnet Ideas for Industrial Plants"**—New, free kit contains specific data on how to apply permanent magnets to countless shop operations. New data sent free as issued.
2. **Shop Package "No. 1"**—Contains 48 Carboloy Permanent Magnets: 8 styles—3 pairs each. Magnetic pull up to 2 lbs. per magnet. Price, $10.00. Get yours now!
3. **Shop Package "No. 2"**—Contains 18 magnets: 4 styles—2 pairs each, and 1 style, 1 pair. Magnetic pull from 3 lbs. to 12 lbs. per magnet. Price $15.00. Order today!

"Carboloy" is the trademark for the products of Carboloy Department of General Electric Company

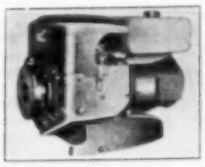
CARBOLOY PERMANENT MAGNETS
DEPARTMENT OF GENERAL ELECTRIC COMPANY
11199 E. 8 Mile Ave., Dept. D, Detroit 32, Mich.

Plants at Detroit, Michigan, Edmore, Michigan, and Schenectady, New York

If you write maker identify as IEN-11434

GENERATOR . . Engine driven, 13 and 21.7 amp. on 220 volt dc.

Source: D. W. ONAN & SONS INC.
25th at University Ave. S. E., Minneapolis 14, Minn.



Magneto ignition

Direct current, particularly for operation of electric magnets, is provided by this new Model 334 assembly of gasoline engine and electric generator. The engine is four cycle air cooled design. The direct connected generator is a four pole unit with voltage characteristics particularly suited for magnet service.

Model 334 is equipped with a Readi-Pull rope starter and has a stop button built into the blower housing. Model 337 replaces the rope starter with a 12-volt starter generator. Model 335 is a manual starting assembly equipped with a hooded carrying frame, mounted fuel tank and junction box. It is designed particularly for portable service. Weight ranges from 305 to 345 pounds. Operation is at 1,800 rpm. and 2,700 rpm. in the two sizes described above.

If you write maker identify as IEN-11435

CUTTING . . Abrasive discs for use in concrete, brick, tile, stone

Source: EVEREADY BRIKSAW CO.
1507-11 S. Michigan Blvd., Dept. 249, Chicago 5, Ill.

12 to 18 inch for masonry

Tuffie trade names a new reinforced abrasive disc in which layers of fabric carrying a safety web are molded into the blade structure so it is able to withstand twisting and binding without danger of breaking. Sizes range from 6 to 18 inches. The new blade is not recommended for very hard vitreous materials such as glazed tile or acid proof brick.

If you write maker identify as IEN-11436

MAGNET . . Base and sectional arm mounts a 2-inch magnifying glass

Source: ENCO MFG. CO.
4522-26 W. Fullerton Ave., Chicago 39, Ill.

$12 with the glass

Miti-Mite No. 120 is a new assembly of the company's magnetic base and sectional arm, previously described IEN-1184-52 to hold an electric lamp. It now includes a 4X magnifying glass which is secured by a ball connection in an aluminum frame. The glass is made up of two separate lenses locked together in dust-proof assembly.

The permanent magnet base measures 1 by 1⅛ by 1⅛ inches. It holds on a ferrous surface with a 50-lb. pull. The sectional arm permits positioning the glass universally.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN-11437

How to Cut Cleaning Costs with WASTE RECEPTACLES

IN YOUR PLANT

Everybody is automatically a member of your cleaning department by conveniently placing Bennett Bilt Waste Receptacles to invite their use. These waste receptacles are sanitary, economical and a major help to cleanliness and neatness. Put them to work for you and reduce cleaning costs.

Only WASTE RECEPTACLES HAVE ALL THESE FEATURES

- Non-rusting stainless steel feet eliminate rusting and rust marks
- Made of extra heavy-gauge corrosion resistant steel
- All welded construction
- Smooth exterior surface . . . nothing to catch and tear clothes
- Reinforced corners
- Self-closing mechanism assures closed doors when not in use and permits easy opening of independent doors with finger-tip pressure
- Rounded corners for structural strength and pleasing appearance
- Baked enamel finish . . . white or green

• These are a few of the many features that make Bennett Bilt Waste Receptacles a natural "buy".

THE BENNETT MANUFACTURING COMPANY
ALDEN, N. Y.

If you write maker identify as IEN-11438

MIRACLE REINFORCEMENT BASE ADDS YEARS TO FLOOR LIFE!

Workmen installing Klemp Floorsteel Flexible Floor Array for reinforcement of concrete surface

- MINIMUM UPKEEP
- RUGGED
- SAFE

Floorsteel Rolls Out Like A Rug!

FLOORS STILL IN PERFECT CONDITION AFTER MORE THAN 25 YEARS! . . .

KLEMP HEXTEEL® or FLOORSTEEL®

REINFORCED (AND INSTALLED) INDUSTRIAL FLOORS

Klemp Hexteel or Floorsteel solve once and for all the problem of solidity, smoothness, and upkeep of any floor daily subjected to the hardest, most wearing assaults of trucks bearing materials of great weight. Fabricated of heavy-duty steel grid flooring material, they are scientifically designed to be filled with concrete or mastic on old or new floors (either wood or concrete). When filled, they make a solid one-piece, rigid, smooth, and seamless mat over the entire floor area, so that the tread of the wheel is always on steel.

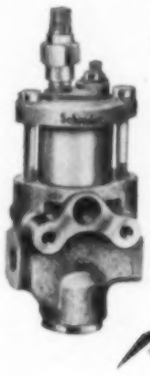
IMPORTANT: Before installing—Insure longer floor life and maintenance savings by consulting Klemp engineers who will gladly help you (without obligation) to make a thorough study of your flooring problems.

Send for your free copy of the informative booklet, "Instructions for laying Klemp Hexteel and Floorsteel."

KLEMP METAL GRATING CORP.
Executive Offices: 1373 North Branch Street, Chicago 22, Illinois

If you write maker identify as IEN-11439

Schrader Pilot Valves for Remote Control of Air Systems



From any convenient spot, you can actuate air equipment by means of a Schrader Pilot Valve. Simply install in the main supply line at the point of operation, and add a small actuating valve at the point of control.

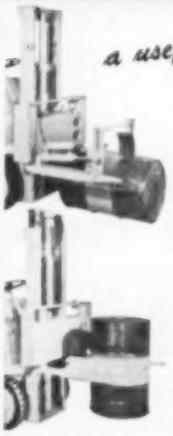
Pilot valves are available in two-, three- or four-way types, and can be supplied with timers to deliver air from a fraction of a second to as many as desired.

The Schrader catalog gives complete information on pilot valves, as well as the full Schrader line of air operated products. Write for it today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
458 Vanderbilt Ave., Dept. D-45, Brooklyn 17, N. Y.

If you write maker identify as IEN-11440

NEW! BAKER HYDRAULIC DRUM UP-ENDER



a useful attachment for BAKER FORK TRUCKS

With this attachment a fork truck can pick up and transport drums or other cylindrical objects either vertically or horizontally and rotate them 90°, for horizontal or vertical stacking. It can also tilt them forward 45° beyond horizontal for emptying at any height within the truck's lifting range. All operations are controlled by the operator from the driver's position. Attachment is quickly demounted by removing two lock pins, disconnecting a "snap-on" hose coupling and sliding the complete assembly off the forks.

For application on Baker 2000, 3000 and 4000 pound capacity fork trucks.

For Complete Information ask for Bulletin 1350-4.

THE BAKER-RAULANG CO.
1226 WEST 80th STREET, CLEVELAND 2, OHIO

Baker INDUSTRIAL TRUCKS

If you write maker identify as IEN - 11441

SAFETY FILE HANDLES by Remont

give lasting safety and surfacing clearance with no handle interference, making them ideal for die makers—under and over handle gives complete versatility for lathe work. Files are securely held in a steel, dove-tailed V-block—just drive it on—knock it off to remove. Light in weight, wooden handle absorbs moisture and oil, assuring a firm grip. Designed for lasting performance. Sizes 6" to 16", for all Mill, Flat and Half-round files. Prices as shown.

PRODUCED TO A STANDARD OF QUALITY—NOT PRICE

OVER-TANG
Vertical Handle for Surfacing

Write today to

For 12" to 16" Files
Sizes as Above Weight 6 Ounces

Remont MANUFACTURING CO.
1310 Meyers Road, Lombard, Illinois

If you write maker identify as IEN - 11442

EXTRA-LENGTH PANELS
Speed Construction

Many industrial, construction and marine uses have proved G-P Giant Scarfed Panels the ideal building material whenever long "wide boards" are specified or when large areas require coverage. Besides speeding up construction, reducing dead weight and adding strength, Giant G-P Scarfed Panels permit use of fewer or lighter frame members, eliminate joints and cut finishing costs.

Quality-controlled to assure uniform thickness and rigidity, easy-to-fabricate G-P Scarfed Panels are available in natural 12 ft. or scarfed 14 ft. and 16 ft. lengths. Custom sizes of any length or thickness can be made to fit your specifications.

GP GEORGIA—PACIFIC PLYWOOD COMPANY

OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Cleveland, Columbia, Detroit, Houston, Lancaster, Los Angeles, Louisville, Memphis, Nashville, Newark, New Hyde Park, New Orleans, Olympia, Orlando, Philadelphia, Pittsburgh, Providence, Raleigh, Richmond, Savannah, Vineland.

For complete data, fill in and mail this coupon today

Georgia-Pacific Plywood Company
614-10E North Capitol Way
Olympia, Wash.

Please send me Scarfed Panel data.

NAME .....
FIRM NAME .....
FIRM ADDRESS .....
CITY ..... STATE .....
POSITION .....

If you write maker identify as IEN - 11444

CLEANING . . Cylindrical broom, hydraulic drive, mounts on a tractor

Source: LULL MFG. CO.
312-16 W. 90th St., Minneapolis 20, Minn.

Company will demonstrate

New design of the company's hydraulically driven Super Sweeper includes a spring loaded floating mechanism that keeps the cylindrical broom in contact with the ground as it is traveled over uneven ground surfaces. The new equipment also provides for hydraulic power to change the broom setting from any position, between 35 deg. to the right or left, while the tractor is moving forward. Hydraulic power lifts the broom to clear 8 in. above the ground or lowers it through an 8-in. movement that compensates for bristle wear.

Power is supplied by a hydraulic pump that mounts on the tractor engine to drive a hydraulic motor on the broom for rotating speed between 80 and 100 rpm., depending on the engine speed on the job. The same pump powers the lift and swing cylinders. Three sizes mount brooms 5, 6 and 7 ft. in width. All measure 32 in. in diameter when new for bristle length measuring 10 in. beyond the drum. A broom shield completes the assembly.

If you write maker identify as IEN - 11445

LIGHTING . . Condenser discharge light and power unit for flash photography

Source: AMERICAN SPEEDLIGHT CORP.
480 Lexington Ave., Room 514, New York 17, N. Y.

100 watt seconds

Ascor Model MB-100 is a new Speedlight consisting of a reflector equipped light for condenser discharge action, a power supply unit including a battery and charger with the condenser and its circuit, a coil type extension cord and a carrying case. The power supply is held in the case by two fasteners that can be loosened or secured with a half turn. The battery carries spring terminals that snap into place. Connections can be made into the power unit to operate on ac. from a shop supply.

If you write maker identify as IEN - 11446

MANAGEMENT . . How to train executives described in manual with examples from current practice

American Management Association
330 W. 42nd St., New York 18, N. Y.

New 576-page manual, "The Development of Executive Talent", represents the joint efforts of 44 authors. It tells how to set up a program for training executives, how to carry it out, methods, followup, evaluation. Eighteen case studies from current practice are included. List price is $6.75.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11447

LEARN the FACTS

DISCOVER WHY

PITCHLIGN

Trade Mark

ROLLER BEARINGS OUTLAST, OUTPERFORM, ALL OTHERS

Races and rollers made from through hardened SAE-52100 steel for longer life. One-piece, tubular continuous steel cage aligns the rollers at their PITCH LINE so they cannot skew. Another important factor in better performance! Get the complete story. Write for Bulletin SF.1066.

WRITE TODAY!

RBC
ROLLER BEARING COMPANY OF AMERICA
TRENTON, N. J.

If you write maker identify as IEN - 11448

It's as easy as this to

ISOLATE VIBRATION and SAVE MONEY

with ISOMODE Pads*

Here's the durable mounting to absorb shock...reduce noise ...cut your maintenance costs. In hundreds of installations, the Isomode Pad has proved to be not only one of the most economical mounts, but also one which does a superior job of isolating vibration.

By absorbing forces normally transmitted to floor, Isomode Pads reduce building damage and undue deterioration of machinery. No bolting in most cases.

Made of oil, age- and water-resistant Du Pont Neoprene. Write for details—discover their surprisingly low cost.

**Trade Mark Reg. U.S. Pat. Off.*

THE MB MANUFACTURING COMPANY, INC.
1064 State St., New Haven 11, Conn.

If you write maker identify as IEN - 11449

HARTWELL
Flush Latches

available for over **300 COMBINATIONS** of door and frame thicknesses

Hartwell Trigger-action Flush Latches are produced in over 300 stock combinations of bolt and trigger offsets. We can supply a latch for any door of any thickness to be latched in a frame of any thickness to your specifications. No altering of panels and frames is necessary when Hartwell Flush Latches are installed. Offsets of bolt and trigger are stamped on each part for rapid and accurate selection of the correct latch for each installation. All Hartwell Flush Latches and Hinges are the result of over a decade of continuous specialized design and manufacture.

Write for new Flush Latch and Hinge Catalog.

HARTWELL COMPANY
9035 VENICE BOULEVARD, LOS ANGELES 34, CALIFORNIA

If you write maker identify as IEN - 11450

HOW ANOTHER COMPANY
SAVES WITH U.S.I.
SOUND POWERED TELEPHONES

TRANSWORLD AIRLINES, Inc. solved their problem of faster and surer checking of pressurization equipment... One mechanic in the plane, the other outside the plane communicate instructions with accuracy . . . Their equipment is fully portable...without batteries, of course.

UNITED STATES INSTRUMENT CORPORATION
SUMMIT • • • NEW JERSEY

If you write maker identify as IEN - 11451

It's New!

- it's different
- it's an "all-use" vinyl primer
- it virtually eliminates surface preparation
- it brushes easily — sprays beautifully
- it dries hard in minutes
- it provides excellent adhesion
- it goes under any type finish

it's TYGORUST

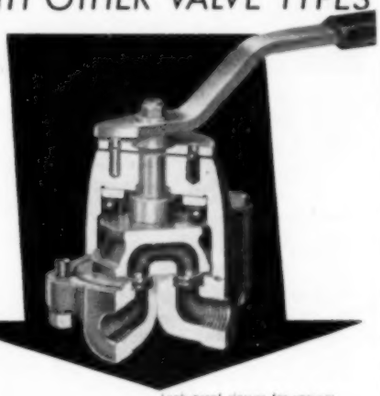
use it on wet or dry rusted steel, on wood, on concrete, on previously painted surfaces.

U. S. STONEWARE
Akron 9, Ohio

WRITE RIGHT NOW FOR DETAILS!

If you write maker identify as IEN - 11452

COMPARE Shear-Seal CHARACTERISTICS WITH OTHER VALVE TYPES



1. LEAK PROOF	Leak proof closure for vacuum to 6000 psi water, hydraulic oil, and air is accomplished by pressure loaded self aligning 'Shear-Seal's' mating with optically flat slide or rotor.
2. LOW HANDLE LOAD	Easy non-fatiguing operation at 6000 psi due to generous ball bearings and pressure balanced sealing members.
3. HIGH FLOW CAPACITY	Large, smooth, tubular flow passages.
4. NO PRESSURE WASTE	Flow passages are unobstructed by poppets or spools.
5. NO WIRE-DRAWING	Flow is through the hole in the center of the 'Shear-Seal', never across sealing surfaces.
6. EXCELLENT THROTTLING	The smooth valve operation permits infinite throttling.
7. COMPACT SIZE	Barksdale Valves have none of the bulkiness usually associated with high pressure valves.
8. NOT CRITICAL TO DIRT	The square corner wiping action between 'Shear-Seal' and rotor keeps dirt and pipe scale away from sealing surfaces.
9. LONG SERVICE LIFE	Under the continued lapping action of the metal to metal seals "Barksdale Valves wear-in where others wear-out."
10. LOW MAINTENANCE	No lubrication required — no freeze ups even where valve is seldom operated.

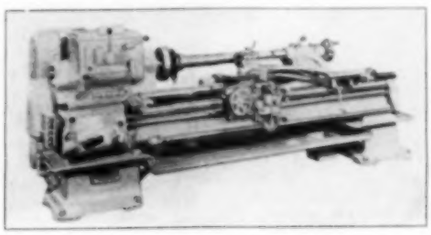
Write for Bulletin 2G-8

BARKSDALE VALVES
1566 E. SLAUSON AVE., LOS ANGELES 11, CALIF.

If you write maker identify as IEN - 11454

CONTROL . . Tracer attachment for automatic contour machining

Source: SPRINGFIELD MACHINE TOOL CO.
629-33 W. Southern Ave., Springfield, Ohio



Illustrated details in Bulletin 184

Compound rest that can be set to a position best suited for contour machining in a facing, boring or turning operation is equipped with a double acting hydraulic cylinder in the company's new contour machining attachment for its standard lathe. Pressure is maintained on both sides of the piston to firmly back up the tool carried in a turret tool post on the rest. Hydraulic oil, supplied from a reservoir equipped with a motor driven pump, feeds through a servo valve to move the piston in one direction or the other as the valve is actuated by a tracer finger.

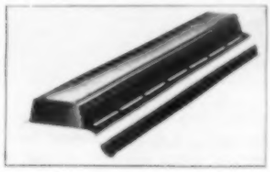
The tracer finger, also mounted on the slide, contacts a full size template secured on a stationary bracket at the front of the machine. The slide movement, actuated by the tracer, is employed in connection with steady operation of either the carriage or the cross slide feed on the lathe to cause the single point cutting tool to duplicate the template outline.

In addition to the hydraulic action the slide is equipped with an electro mechanical device that controls a variable drive on the lathe maintains constant cutting speed, as the cutting tool is moved in and out with relation to the center line.

If you write maker identify as IEN - 11455

LIGHTING . . Fluorescent fixture directs 7 per cent of light upward

Source: LEADER ELECTRIC CORP.
3504 N. Kedzie Ave., Chicago 18, Ill.



Brightens upper spaces

Slots in the reflector of this new TypUCO Diffuser fixture permit about 7 per cent of the light from the two or three 40-watt fluorescent tubes to be directed upward. The balance is reflected directly down on the work. The fixture is available in open and closed end designs for two or three 40-watt lamps. It can be specified with high gloss baked enamel or in porcelain enamel reflector finish.

Mounting is singly or in continuous rows direct to the ceiling or suspended by a variety of hangers the company is prepared to supply. The reflector is removable for cleaning. Wiring and auxiliary equipment are enclosed in an accessible channel. Standard operation is on 110 volt 60-cycle ac.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11456

USE HOUGHTON **Cosmolube**
*THE MULTI-PURPOSE GREASE THAT PUMPS EASILY AT

20° Below!

MEETS THE NEEDS OF EVERY INDUSTRY FOR **HOT** SPOTS—**COLD** SPOTS—**WET** SPOTS

- ★ High melting point
- ★ Won't dissolve
- ★ Resists oxidation
- ★ Adhesive to metal
- ★ Won't separate
- ★ Only one grease to buy and apply

GET LATEST BULLETIN on this heavy-duty grease that simplifies your inventory . . . Write to E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa.

COSMOLUBE
. . . a product of
E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

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Short Cut
TO FASTER FREIGHT HANDLING

Move materials faster from dock to dock over a cross-over bridge. Easy to operate, saves time and manpower. For single or multiple tracks . . . specify a Whiting design to help you get the most in handling efficiency. Ask for illustrated bulletin MS-C-400 today.

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15629 Lathrop Avenue, Harvey, Illinois

WHITING
CROSS-OVER Bridges

3 TYPES
OVERHEAD-RISE (as pictured)
GROUND-LEVEL
ROLL-AWAY

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now
ONE GOVERNOR ONE MODEL . . .
for 9 out of 10 industrial and farm engines

PIERCE LONG RANGE UNIVERSAL GOVERNOR

- Instant variable speed selection and accurate engine control at any speed setting within 1200 to 2600 RPM. Higher and lower ranges obtainable by simple change of pulley. Also "constant speed" operation.
- Accurate, dependable speed control for engines operating corn shellers, drag lines, hoists, arc welders, trucks and tractors with power take-offs, etc.

List Price $39.50
Pulley Extra 4" $1.70 5" $1.75

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THE PIERCE GOVERNOR COMPANY, INC.
1640 Ohio Avenue, Box 1000, Anderson, Indiana, U. S. A.

WORLD'S MOST EXPERIENCED GOVERNOR MANUFACTURER

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PLANNED FOR YOUR PROTECTION

CONTINENTAL Chain Link Fence provides better protection features—more value for your fence dollar. You get engineered erection; 12 fence styles; rigid framework secured by tough rods and wire; galvanized fabric, and welded gates. Get these plus features in Continental's "Planned-for-Protection" fence.

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Please send FREE copy of "Planned Protection"—complete manual on property protection.
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*Trade Mrks. Reg. U.S. Pat. Off.

CONTINENTAL STEEL CORPORATION

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SCHRAMM
SMALL INDUSTRIAL COMPRESSORS

Positive controlled force feed oiling to every wearing surface.

Main Bearings—Tapered roller bearings. Crankshaft supported at both ends.

Larger radiation fins.

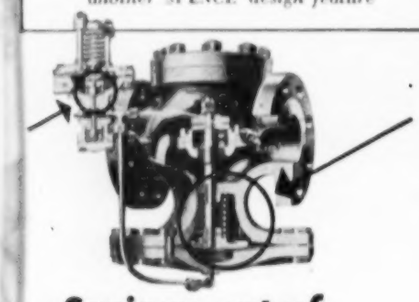
SIZES—½ HP to 5 HP. MOUNTINGS—Horizontal or vertical air receivers or on base. DRIVES—Electric motors or gasoline engines.

WRITE FOR CATALOG GC-52.

SCHRAMM, INC.
The Compressor People
WEST CHESTER • PENNSYLVANIA

If you write maker identify as IEN - 11461

another SPENCE *design feature*



Springs out of path of steam

In the Spence Regulator, the springs are out of the path of the steam or other fluid flowing through the valve. They operate at low unit stress for exceptionally long life. Learn more about Spence design features that cut costs of pressure and temperature control. Send for Bulletin 500.

SC 110

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

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NEED A GOOD SOURCE FOR TERMINALS?
WE MAKE *All Sizes, All Kinds!*

SMALLEST TO LARGEST — Hermaseal manufactures Sealed Terminals in an extremely wide range of sizes, for very low or very high voltage, with tubular electrodes for high current carrying capacity — and with solid electrodes for moderate current requirements.

COMPLETE ASSEMBLIES — We have facilities for soldering terminals to your transformer covers — evacuating and pressure filling enclosures.

NEW CATALOG — Just off the press, a new catalog with descriptions and specifications for most of Hermaseal's stock sizes and designs. Write for your copy today!

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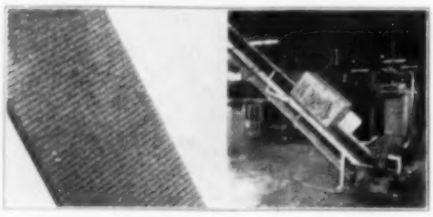
THE HERMASEAL CO., Inc.
Elkhart 25, Indiana

If you write maker identify as IEN - 11463

CONVEYING . . Rough top belt will move work on a 42 degree incline

Source: QUAKER RUBBER CORP.
Comly & Tacony Sts., Philadelphia 24, Pa.



Three ply belt will ride six inch pulleys

Thousands of finger-like rubber tentacles grip and hold work carried on the company's new Safety-Grip rough top conveyor belt. The belt will carry wax surfaced cartons, ice, tin plates, glass, tile up inclines as steep as 42 degrees. At the same time it will bend readily over small diameter pulleys and maintain good pulley traction.

Sizes range to 48 in. in width and in any specified length. Thickness is standard three ply with a $\frac{1}{16}$-in. surface but this can be varied to specification.

If you write maker identify as IEN - 11464

TRUCK . . Engine driven fork lift operates in confined areas, ½ ton

Source: HAMBRO MACHINERY DIVISION
17 E. 54th St., 3rd Floor, New York 22, N. Y.

Illustrated is new assembly of the company's turret type tractor unit, previously described IEN-952-52 in a box truck assembly. In this case the power unit is mounted within a wheel equipped base to operate a fork lift frame at the front. A ½-ton load can be lifted to 9½ ft. above the floor. The assembly measures 56 in. in overall length without the forks. It is 34 in. in width. Turning radius without the forks is 55 inches.

If you write maker identify as IEN - 11465

MANAGEMENT . . Nineteen typical industries are analyzed as to national status, structure, finances

Henry Holt & Co.
381-85 Madison Ave., New York 17, N. Y.

Basic metals, basic nonmetallic, metalworking, textile and leather, consumers' goods are the five major groups covered by new book, "Economics of American Manufacturing", list price $6.95. Nineteen representative industries within these groups are analyzed as to their setting in the national economy, structure of the industry, financial factors, future outlook.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN - 11466

LOCKED IN STRENGTH of Tri-Lok open steel flooring gives efficient load distribution, even on long spans. Get maximum strength, light, and air with minimum weight. Available in Rectangular, Diagonal, and Super-Safety U-type Flooring, and Stair Treads of all kinds.

The Tri-Lok Company is also equipped to furnish *riveted* and Tri-Forged *welded* open steel flooring. Tri-Lok gratings can be furnished in a variety of metals, including aluminum alloy, stainless steel, etc. Write for Bulletin PQ-1103.

DRAVO CORPORATION
National Distributor for the Tri-Lok Company
Dravo Building, Pittsburgh 22, Pennsylvania
Sales Representatives in Principal Cities

DRAVO

If you write maker identify as IEN - 11467

BOSTITCH T5 TACKER

One in the hand is worth two men with hammers and tacks!

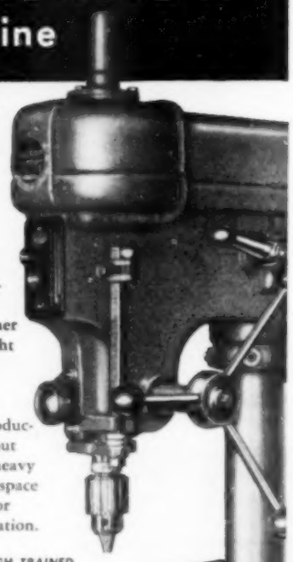
- Just about twice as fast—that's how manufacturers and contractors compare the Bostitch T5 Tacker to hammer and tacks.
- There are other big advantages. The T5 Tacker permits accurate locating of staples, even in tight spots. Drives staples to within 1/16" of corners, penetrates deep into hard or gummy woods. One-hand operation leaves other hand free for holding or aligning material. Equally important, workers like it.

BOSTITCH AND FASTER fastens it better with wire

For more information about the Bostitch T5 Tacker and for application details, write BOSTITCH, 650 Mechanic St., Westerly, R. I.

If you write maker identify as IEN - 11468

Designed for those who need a *LIGHT-HEAVYWEIGHT* Machine



—that's the WALKER-TURNER Line

Professional in design and operation, yet light for production machines, the Walker-Turner Light-heavyweight line gives industry the capacity needed for short-run production work, without the necessity of heavy investment. Use space below to write for complete information.

SOLD ONLY THROUGH *TRAINED* INDUSTRIAL DISTRIBUTORS

NEWEST LIGHT-HEAVYWEIGHT 15" WALKER-TURNER DRILL PRESS with 6" Spindle Travel

Designed for fast, accurate drilling at new low levels of investment and production costs. Features calibrated depth indicator. Capacity: Bench models — 12" chuck to table, 17½" chuck to base. Six spline spindle mounted on 2 ball bearings, 4" and 6" travel. 4 speeds — 600, 1250, 2440 and 5000 r.p.m. In bench, floor and multi-spindle models.

WALKER-TURNER
DIVISION
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

DRILL PRESSES • RADIAL DRILLS • TILTING ARBOR SAWS • BELT and DISC SURFACERS
METAL CUTTING BAND SAWS • LATHES • SPINDLE SHAPERS • JOINTERS

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to write for full details and specifications.
Walker-Turner Division, Kearney & Trecker Corp.
Dept. IE-10, Plainfield, N. J.
(Please write your name and address in margin of page)

If you write maker identify as IEN-11470

New! Low-Cost! Wide-Range!

VARIABLE Speed Sheaves

Easily Attached to Any Machine

1/15 TO 15 HP.
RATIOS UP TO 8:1

● Simple, sturdy Speed Selector Sheaves are applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. You get wide speed variations with standard V-belts, since two variable pitch sheaves are used. Eliminates bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts.

• Standard V-belts • Automatic belt alignment
• Fixed shaft centers • LOW COST

Write FOR FREE BULLETIN

SPEED SELECTOR INC.
118-A Noble Court • Cleveland 13, Ohio

If you write maker identify as IEN-11471

In production or in storage

IRONBOUND EQUIPMENT HANDLES SMALL PARTS MORE EFFICIENTLY

Standard 2-way entry bolted type skid built to handle loads up to 5 tons.

Standard box top welded to standard skid. Available too, with removable boxes. Handles many items in production and storage.

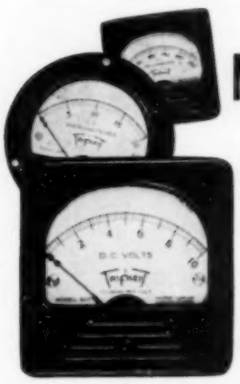
Flexible arrangement of boxes and skids permits tiering and stacking to meet your individual requirements. Provides quick availability, easy handling, or storage for complete units or parts.

Each of the units illustrated has an important use in modern industry. Ironbound skid platforms and box tops are prime sources of increased plant capacity so vitally needed today. Our representative can help you to increase your output and plant space. Catalog GP-7 may help you, too!

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

If you write maker identify as IEN-11472



MODERNIZE WITH TRIPLETT METERS

A SIZE, TYPE, AND STYLE FOR EVERY INSTALLATION

Your instrumentation is strictly modern in design and construction with Triplett Meters. You can have sizes 2" to 7" in a wide variety of case shapes and mounting arrangements, A.C., D.C., R.F., Rectifier or Dynamometer. Molded and metal cases, rear illumination, and other special features are available. For precision and economy virtually every meter part is made in Triplett plants under rigid humidity and dust control. Every meter represents the refinements gained in half a century of meter experience. Keep your panels up-to-the-minute with Triplett Meters—famous the world over for quality, accuracy, and dependability.

Triplett Electrical Instrument Co.
Bluffton, Ohio, U.S.A.

Triplett

If you write maker identify as IEN-11473

TESTING . . Sonic comparator grades abrasive wheels, ceramic parts

Source: SATURN ELECTRONICS CO.
8235-39 Witkop Ave., Niagara Falls, N. Y.

For non-destructive testing

Model 102 is simplified design of the company's original Sonic Comparator, previously described IEN-10397-50. The new unit operates in a manner identical to the original design providing a test frequency range from 100 to 10,000 cps. It can be employed to check grade or hardness, freedom from included flaws in abrasives, refractories, ceramics, sintered metals, plastics, in bodies such as plates, cylinders, rings, round and rectangular rods.

Capacity covers work pieces measuring from 3 to 20 in. in greatest dimension. In each case the reading obtained on the instrument dial is compared to that for an identical body of known characteristics.

The work to be tested is supported suitably and is contacted by the stylus of an electro-mechanical transducer or vibrator. A calibrated dial on the instrument is then tuned until a characteristic resonant pattern appears on the screen of the built-in oscilloscope. At this point the dial reading is the frequency in cycles per second. Ten to fifteen seconds are sufficient for a test. Operation is on 110-volt 60-cycle ac.

If you write maker identify as IEN-11474

HANDLING . . Steel tote basket stacks when filled, nests in storage

Source: CHAS. WM. DOEPKE MFG. CO.
Emerald & Blue Ash Sts., Rossmoyne, Ohio

For hand, truck or conveyor application

Steel baskets, similar in size and shape to the company's New-Tier tote box, previously described IEN-12377-50, are now available for materials handling and processing. The new corrosion proof unit is equipped with handles hinged near the two ends. When they are swung inward they form supports to engage grooves on the bottom of a basket placed upon them for tiering in storage or ahead of an operation. In this position they provide access to the work at both ends. The handles can be swung outward and the baskets nested.

Two sizes weigh 5 and 14 pounds. One measures about 18 by 9 by 6¼ in., the other about 2½ by 12½ by 7¾ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11475

TOUREK
BALL JOINTS • PIPE PLUGS
AND QUALITY SCREW MACHINE PRODUCTS

ball joints—Specify Tourek Ball Joints for simplified design, improved performance and lower costs. A wide range of standard types is available. Specials made to order.

pipe plugs—Tourek Pipe Plugs are accurate, high strength and economical. Stock sizes: ¼", ⅜", ½", ¾" and 1".

screw machine products—You can depend on Tourek for "The Best In Quality Screw Machine Products." Complete facilities plus more than 50 years' production experience are at your service.

LITERATURE. Data on Tourek products sent promptly upon request. J. J. TOUREK MFG. CO., 1901 S. Kilbourn Ave., Chicago 23, Ill.

ESTABLISHED 1920

TOUREK
"THE BEST IN QUALITY SCREW MACHINE PRODUCTS"

If you write maker identify as IEN-11476

M&M air fluff paper shredder

The Air-Fluff Paper Shredder is used for the commercial manufacture of paper excelsior. Also speedily, safely and efficiently destroys blueprints, letters and confidential records. Built in 3 sizes ranging in capacity from 200 to 2500 pounds per hour. Each machine can be adjusted to cut widths of 1/8", 3/16", 1/4", or 3/8". Write for descriptive literature.

mitts & merrill
1014 South Water • SAGINAW, MICHIGAN

If you write maker identify as IEN-11477

This camera helped ALLIS-CHALMERS design better circuit breakers

Contacts in this oil-filled, high-voltage circuit breaker open and close in a quarter second—much too fast to see. To study this action, Allis-Chalmers engineers use the Kodak High Speed Camera, shooting through a special transparent manhole.

The 16mm films, taken at speeds up to 3200 frames per second, are projected at normal speed—slow the motion as much as 200 times. What appeared as a blur during the test is transformed on the screen into a close-up, slowed-down view of the action for detailed study and analysis.

The Kodak High Speed Camera is daily solving complex design, production, and performance problems where high speed mechanical action or fluid flow is involved. To see how this versatile instrument can help you save time and money, send for your copy of a booklet giving complete information. Or, write for details about a new 16mm sound movie, "Magnifying Time." Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

the Kodak HIGH SPEED Camera

Kodak

If you write maker identify as IEN-11479

Custom-engineered to meet your specific requirements, Wissco Metal Processing Belts are furnished in standard or special mesh constructions . . . in conventional and spiral weaves . . . and with rod reinforcements for high-temperature service. Supplied in correct metal or special alloy for resistance to heat, abrasion and chemical action.

For specific information write or phone our nearest sales office.

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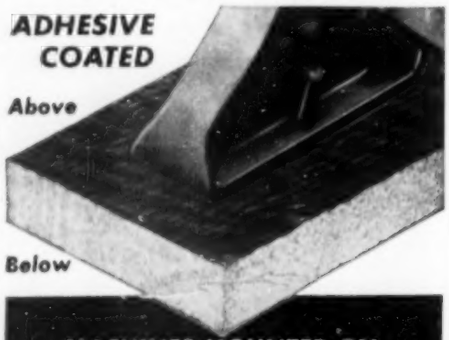
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION
CF&I

If you write maker identify as IEN-11480

ADHESIVE COATED



MACHINES MOUNTED ON
Westsorb
CAN'T CRAWL

Westsorb *adhesive-coated* machine mounts are solving more than the problem of vibration. Their (exclusive) adhesive coating on both sides prevents looms and all other machinery from "crawling." Eliminates realignment after installation. This minimizes down time—saves money. Westsorb adhesive-coated felt mountings don't break down under heaviest service impacts. They resist oil, acid, grease, water and age. They are simpler to install than any machine pad. No holes or bolts—no adhesive to apply. Western Felt engineers located throughout the textile areas are anxious to cooperate.

WESTSORB
Vibration-absorbing Machine Mounts

• Quickly installed • No holes to drill • No adhesive to apply • Less "down-time" • Saves floors • Less machine repair • Reduce plant noise • Thickness for every need • Engineered for every job

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Branches in all Principal Cities
MANUFACTURERS AND CUTTERS OF WOOL FELTS

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Please send 18 page booklet containing data on efficiency tests of Westsorb machine mounts under looms and other equipment.
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NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Each includes identification, size of the material, information it contains so you can judge its value to you.

BEARINGS . . Stock bearings in bronze, $\frac{1}{16}$ to 4½ in. o.d., also electric motor bearings by maker, bronze bar stock; size tables. Catalog 52, 76 pages. Bunting Brass & Bronze Co., 726-28 Spencer St., Toledo 9, Ohio. **IEN-01042**

BEARINGS . . Roller thrust, ball thrust and roller journal bearings; sectional drawings, sizes, ratings, list prices, special designs. Catalog 28, 16 pages. Gwilliam Co., 358-62 Furman St., Brooklyn 2, N. Y. **IEN-01043**

BELT FASTENINGS . . For conveyor belts 14 to 96 in. in width; list prices per set of two separable units and a pin, notes on metals. Bulletin A-70, 2 pages. Flexible Steel Lacing Co., 4610 Lexington St., Chicago 44, Ill. **IEN-01044**

BLOWERS . . Draft inducer units for boilers, kilns, furnaces; selection table, dimensions, advantages of correct draft. Bulletin I-52, 12 pages. L. J. Wing Mfg. Co., 158-62 Vreeland Mills Road, Linden, N. J. **IEN-01045**

BUILDINGS . . Translucent structural panels of Fiberglas-reinforced plastic for skylights and partitions; application suggestions, properties. Catalog, 12 pages. Resolite Corp., Route 19, Zelienople, Pa. **IEN-01046**

CALCULATING . . Type 330-2 calculating punch machine to add, substract, multiply values punched in tabulating cards. Folder TM-809, 6 pages. Remington Rand Inc., 315 Fourth Ave., Rm. 1618, New York 10, N. Y. **IEN-01047**

CASTINGS . . Small zinc die castings to 1,000 per lb.; information on production facilities, picture examples of parts made. "New Design Horizons", 4 pages. Dollin Corp., 602 S. 21st St., Irvington 11, N. J. **IEN-01048**

CASTINGS . . Picture examples of parts made by investment castings to show scope, picture sequence of the process. "Investment Casting", 12 pages. Investment Casting Co., 317-21 Chestnut St., Newark 5, N. J. **IEN-01049**

CENTERS . . "Super-Center" with tip of Exmet heat- and wear-resistant alloy; sizes and list prices on lathe and grinder types, also on tips. Folder 52-802, 4 pages. Doall Co., 252-56 N. Laurel Ave., Des Plaines, Ill. **IEN-01050**

CLAMPS . . Quick-acting toggle clamps, 150 to 600 lb. holding pressure; open and closed dimension drawings, uses in fixtures. "Kwik Klamps", 12 pages. Danly Machine Specialties Inc., 2102 S. Laramie Ave., Chicago 50, Ill. **IEN-01051**

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If you write maker identify as IEN-11482

SAVE YOUR OIL, MONEY AND MACHINERY WITH HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT - - - -

A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated—must be discarded or conditioned for further use

There Is a HILCO to do This Job for You

Cleans Oil, Reduces Down Time, Increases Production!

★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and recommendations.

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THE HILLIARD CORP.
35 W. 4th ST. • ELMIRA, N. Y.
IN CANADA – Upton-Bradeen-James, Ltd. 990 Bay St., Toronto, 3484 Park Av., Montreal

If you write maker identify as IEN-11483

The OFFICE VALET

Reduce Absenteeism — keep employees' wraps dry, aired and in press

With Office Valet Wardrobe equipment employees do not face weather in damp-clothing that has been crumpled in lockers, do not eat soggy lunches soaked by wet hats or mittens. The 4 foot 3-U rack, illustrated, accommodates 12 employees with spaced coat hangers, individual hat spaces, umbrella racks and overshoe shelf. Other units with or without lock boxes, in sizes and capacities for every office and factory need.

WRITE FOR BULLETIN OV-5

VOGEL-PETERSON CO.
624 So. Michigan Ave., Chicago 5, Ill.

If you write maker identify as IEN-11484

THESE TRUCKS ROLL UP A LOT OF USEFUL MILES . . . on Mono-Cushions

Mono-Cushions are sure-footed, stable on the short turns. They protect floor surfaces from the heavy pounding of heavily-loaded vehicles. **Mono-Cushions** reduce the effort required to maneuver the trucks and protect the operators from "road shock."

Pound for pound, choose a lift truck and size for size, choose a **Mono-Cushion.**

Follow the lead of the manufacturer of your truck. When you need tire replacements, order **Mono-Cushions** from your truck service man. He knows your trucks best.

THE MONARCH RUBBER COMPANY
201 Lincoln Park • Hartville, Ohio

If you write maker identify as IEN - 11486

Yes! THRIFTMASTER makes ALL TYPES of DRILLHEADS

Universal Joint Drillhead . . . Full Ball or Bronze Bearing Construction Standard and Heavy Duty. From 1/2" Minimum Centers up. Capacities to 1" in Steel.

Gear Driven Electric Type Adjustable Drill Head . . . Enclosed, Full Ball Bearing Construction.

Special Fixed Center Drillhead . . . Full Ball Bearing Construction.

- We Stock or Can Build the Right Drillhead for Your Job.
- Write for THRIFTMASTER Complete catalog or phone for a rush, on-the-spot, quote.

Subsidiary of Thomson Industries, Inc.

THRIFTMASTER Products Corporation

1040 N. Plum Street
LANCASTER, PENNA.

Also makers of
DORMAN AUTOMATIC REVERSE TAPPERS

If you write maker identify as IEN - 11487

New Paint Pump

HANDLES HEAVIER PAINTS AND COATINGS

- Portable for Maintenance Painting
- Stationary for Production Spray Lines

The "one coat" era is with us. The trend in industry today is toward a single application of heavier, thicker paints and coatings. *And now* . . . you can get a new heavy-duty pump that *completely obsoletes* any previous methods of applying these materials!

This new 10-gallon Heavy-Duty Graco Paintmaster features a rugged reciprocating double-action pump, air-operated. A built-in agitator keeps paint or other materials constantly in perfect suspension. This Paintmaster will supply more than enough paint for 8 spray guns!

You can disengage the Sta-Level truck easily (no pins or bolts) for stationary operation to supply production lines. New Paintmaster dispenses directly from 5 or 10-gallon original containers.

GRAY COMPANY, INC.
1014 Graco Square, Minneapolis 13, Minn.

Write today for Spec Sheet No. 15.

NEW GRACO Heavy-Duty Paintmaster

REGIONAL OFFICES:
NEW YORK
PHILADELPHIA
DETROIT
ATLANTA
CHICAGO
SAN FRANCISCO

If you write maker identify as IEN - 11488

AJAX DIHEDRAL COUPLINGS

most MISALIGNMENT CAPACITY

least BACKLASH

all GEARS HARDENED TO 50 TO 55 ROCKWELL C

Exclusive Ajax Dihedral tooth shape provides for maximum misalignment with tooth clearance (backlash) kept to oil film requirements. Positive oil seals keep lubrication in and dirt out. Write for catalog.

AJAX FLEXIBLE COUPLING CO. INC.
Incorporated 1920
WESTFIELD, NEW YORK

NEW LITERATURE—Continued

CLEANING . . "Liquamatte" wet abrasive blast machines; method and its use, "before-and-after" pictures. Bulletin 43, 6 pages. American Wheelabrator & Equipment Corp., 1119 S. Byrkit St., Mishawaka, Ind. **IEN-01052**

CLEANING . . Materials for cleaning, sanitation, maintenance; informal data summaries and a selection index of 600 listings for 264 jobs. Looseleaf Catalog, 174 pages. Puritan Chemical Co., 918-30 Ashby St., Atlanta, Ga. **IEN-01053**

CONNECTORS . . Compression-type hermetic seal bushings for transformers and electronic equipment; dimension drawings. Catalog, 40 pages. Heldor Terminal & Bushing Co., 223-27 Belleville Ave., Bloomfield, N. J. **IEN-01054**

CONSTRUCTION . . Silicate of soda to harden concrete, waterproof, oilproof and make the surface acid-resistant. Bulletin 34-1, 8 pages. Philadelphia Quartz Co., 1131 Public Ledger Bldg., Philadelphia 6, Pa. **IEN-01055**

CONTACTS . . Electrical contact rivets; drawings and dimensions on standard shapes, properties of standard contact metals and alloys. Catalog C-521, 6 pages. Gibson Electric Co., 8353 Frankstown Ave., Pittsburgh 21, Pa. **IEN-01056**

CONTACTS . . Made of precious metal; drawings and descriptions on button, rivet, screw, special types, data on available metals. Looseleaf catalog, 6 sheets. Tricon Mfg. Co., 8006-10 Wallace St., Chicago 20, Ill. **IEN-01057**

CONTRACT WORK . . In making plastic parts, formed metal parts, small-diameter wire, mica parts and electronic components; examples: "Parts", 20 pages. Sylvania Electric Products, 752 Second Ave., Warren, Pa. **IEN-01058**

CONTROLS . . Instruments to control aeration and return sludge in the treatment of waste; schematic diagram, instruments involved, functions. Folder AED-833-9, 4 pages. Foxboro Co., 42 Neponset Ave., Foxboro, Mass. **IEN-01059**

CONTROLS . . Liquid-level control using a radioactive source in a tank and a gamma-ray detector outside; description, application schematics. "Gagetron", 4 pages. Instruments Inc., 120-24 N. Madison, Tulsa 3, Okla. **IEN-01060**

CONVEYING . . "Ohio" tramrail and cranes for foundry use; installation photographs to show application in handling metal, layout diagram. Bulletin 107, 4 pages. Forker Corp., 2603 Random Road, Cleveland 6, Ohio **IEN-01061**

CORROSION PROOFING . . Wrapping paper, treated with a volatile corrosion inhibitor to prevent rust; uses in shipping and storage. "Vapor Wrapper", 16 pages. Nox-Rust Chemical Corp., 2427-31 S. Halsted St., Chicago 8, Ill. **IEN-01062**

CRANES . . Crawler crane with lift capacity to 60 ton; picture description on frame construction, drive, controls, attachments. Bulletin X-122-1, 40 pages. Harnischfeger Corp., 4402 W. National Ave., Milwaukee 14, Wis. **IEN-01063**

DRIVES . . Roller chain and sprockets; selection tables of stock drives, drive chains, conveyor chains, sprockets, engineering information. Data Book 2457, 148 pages. Link-Belt Co., 305-9 N. Michigan Ave., Chicago 1, Ill. **IEN-01064**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11489

Reduce the High Costs of *Eye Accidents*

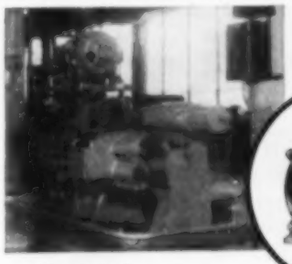
Use WATCHEMONET eye SAVERS

The success of your safety program depends on workers actually wearing their goggles. All-plastic Eye-Savers can help you get the worker cooperation you need. Their comfortable fit, good looks and great impact resistance make them popular with workers everywhere. Available from your safety supplier in many different models to meet all eye hazards. Model 1N (square shape shown above) features wide angle vision and maximum ventilation.

FREE! *Send for magazine article giving impartial advice on best uses of plastic eye protection. Eye-Savers catalog also included.*

WATCHEMONET OPTICAL CO., INC.
DEPT. 7, PROVIDENCE, RHODE ISLAND
Producers & Originators of Practical Plastic Eye Protection

If you write maker identify as IEN - 11490



7½ Horsepower Century drip proof motor on a special production lathe.

Century MOTORS'

Unusual Freedom from Vibration Helps Maintain Close Tolerances — with a Minimum of Rejects

Century motors are designed to help you get the accuracy that was built into your modern production machines. They are ruggedly built, carefully machined and well balanced both mechanically and electrically.

You may select Century motors in: open drip proof — splash proof — or totally enclosed fan cooled construction to assure uninterrupted production against various atmospheric hazards.

They are built in a wide range of sizes from 1/8 to 400 horsepower. Specify Century for all your equipment.

CENTURY ELECTRIC COMPANY
1806 Pine Street, St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

CENTURY SERVICE
In Near Any CENTURY Motor Driven Equipment

If you write maker identify as IEN - 11491

FIGHT FIRES with ROCKWOOD TRIPLE-ACTION WATERFOG NOZZLES

Illustrated, Rockwood WaterFOG Nozzle Type SG-45.

With a Rockwood Nozzle you can pick your discharge pattern. Its triple action gives you conventional straight stream, high velocity WaterFOG or low velocity WaterFOG. You get quicker quenching of fires because the Rockwood nozzle goes into action faster . . . . there's more protection to life and nearby combustibles . . . and there's less water damage because less water is used. Write for booklet, "15 Types of Fire Protection," to get the newest information in fire protection.

Tested by Underwriters' Laboratories, Inc., and approved by Factory Mutual Laboratories.

ROCKWOOD SPRINKLER CO.
Engineers Water . . . to Cut Fire Losses
40 HARLOW STREET, WORCESTER 5, MASS.

If you write maker identify as IEN - 11492

For Heavy Duty Nut-Running Jobs!

ROTARY ELECTRIC IMPACTOOL

Powerful impacts tighten toughest nuts without "kick" to user!

- easy to use—easy to handle
- motor won't stall from overloading
- full power in either direction
- no kick or twist to operator

SIZE 34U
For 1¼" Bolts

Size Square Drive ..... 1"
Weight ..... 32 1/2 lbs.
Length ..... 16 1/8"
Height ..... 10 3/16"
Safe to Center ..... 2 1/8"
110 or 220 Volt Models
AC-DC

I-R PRECISION-MADE MECHANISM produces 900 "rotary" impacts per minute. Speeds up dismantling and assembling of turbine and large pump casings, diesel engines, and other heavy duty nut-running jobs. Reduces time and labor to minimum!

. . . An Ingersoll-Rand Product . . .

Ingersoll-Rand
11 BROADWAY, NEW YORK 4, N. Y.

ORIGINATOR OF IMPACTOOLS: AIR AND ELECTRIC

If you write maker identify as IEN - 11493

YOU CAN SEE WHEN THIS COCK IS OPEN

No time is wasted finding out whether a Westinghouse Savair Cock is open or closed. A quick glance at the handle is all that's needed. If the handle juts out perpendicular to the main pipe line, the cock is open ... if it's parallel to the main line, the cock is closed.

You get this extra convenience in 2-, 3-, or 4-way plug-type cocks for ¼" to 2" pipe. They come with or without a side vent.

For ¼" to 1" instrument and control lines, where bottle-tightness is mandatory, diaphragm-type Savair Cocks are available to provide maximum protection against air leaks.

Westinghouse Air Brake Company makes an extensive line of pneumatic controls. Your Westinghouse Distributor, listed under "Air Compressors" in the Classified Telephone Directory, can supply all your control requirements.

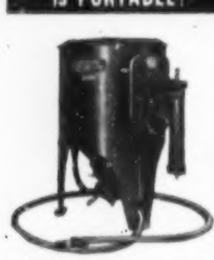
Factory Branch: Emeryville, California
In Canada: Canadian Westinghouse Co. Ltd.

WESTINGHOUSE AIR BRAKE CO. WILMERDING PA
INDUSTRIAL PRODUCTS DIVISION

If you write maker identify as IEN - 11494

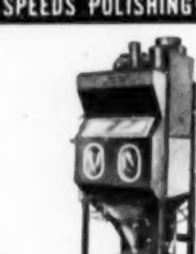
NOW! Pangborn Stock Units for Blast Cleaning . . . Dust Control . . . Precision Finishing

Blast Cleaning Unit is PORTABLE!



Ideal for maintenance and many other jobs, including removal of rust, dirt, scale, etc. Economically cleans large objects like tanks, bridges, structural work before painting. Six sizes, stationary or portable, from $170.00 and up.

Hydro-Finish SPEEDS POLISHING!

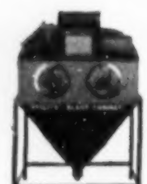


Removes scale and directional grinding lines . . . prepares surfaces for plating and holds tolerances to .0001"! Liquid blast reduces costly hand cleaning and finishing of molds, dies, tools, etc. Models from $1410.00 and up.

STOP DUST at the SOURCE!

Pangborn industrial type Unit Dust Collectors trap dust at source. Machine wear is minimized, housekeeping and maintenance costs reduced. Solves many grinding and polishing nuisances and material losses. Models from $296.00 up.

COMPACT Blast Cabinet for SMALL WORK!



Ideal for producing clean, smooth surfaces on pieces up to 60" x 36" in size. Cleans metal parts, removes rust, scale, grime, dirt, paint, etc., in a few seconds. Saves money all year 'round. Models from $319.00 and up.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control Equipment

Pangborn MAIL COUPON FOR DETAILS

Check for more information
- [ ] Blast Cleaning Cabinets
- [ ] Blast Cleaning Machines
- [ ] Unit Dust Collectors
- [ ] Hydro-Finish Cabinets

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me more information on the equipment I've checked at the left.
Name..........
Company..........
Address..........
City.......... Zone.... State..........

NEW LITERATURE—*Continued*

DRIVES . . Gear-type shaft couplings; selection table on 22 sizes for ¾ to 6½-in. shafts, assembly instructions, other types. Bulletin CDC-52, 4 pages. Cone-Drive Gears Div., 7169-73 E. McNichols Road, Detroit 12, Mich. **IEN-01065**

DRIVES . . Variable-speed drive for a planing machine; description on components including electronic control. Bulletin D-2306, 8 pages. Reliance Electric & Engineering Co., 1111 Ivanhoe Rd., Cleveland 10, Ohio **IEN-01066**

DRIVES . . Flexible shaft couplings, standard and special, ½ to 40,000 hp.; selection data, ratings. Engineering Catalog 51, letterhead request please. 78 pages. Thomas Flexible Coupling Co., 47 Main Ave., Warren, Pa. **IEN-01067**

DUCT . . "Bustribution" electrical duct with aluminum bus bars; summary on its characteristics and a comparison with copper bus bars. Bulletin B-750, 4 pages. BullDog Electric Products Co., Box 177-A, Detroit 32, Mich. **IEN-01068**

ELECTRONIC PRODUCTS . . Small television camera tube for industrial use; operating principle, schematic diagram, characteristics. "Vidicon 6198", 8 pages. Radio Corp. of America, 413-17 S. 5th St., Harrison, N. J. **IEN-01069**

ELEVATORS . . Portable foot-operated hydraulic elevating tables; data on 1 to 3-ton models. Bulletins 232, 262, 263, 264, and 233 suppl. on accessories, 2 pages each. Raymond Corp., 3593 Madnson St., Greene, N. Y. **IEN-01070**

ENGRAVING . . Pantograph machines in power and hand models for engraving, marking, acid etching; picture review. Pocket Bulletin B-1, 6 pages. H. P. Preis Engraving Machine Co., 145 Industrial Branch, Hillside, N. J. **IEN-01071**

EQUIPMENT . . For process industry use; condensed review on pumps, blowers, crushers, dryers, motors, drives. Bulletin 25-B-6177OG, 24 pages. Allis-Chalmers Mfg. Co., 909 S. 70th St., Milwaukee 14, Wis. **IEN-01072**

EQUIPMENT . . Picture summary of company's line including rock drills, portable tools, compressors, engines, pumps, condensers. Pocket Booklet 300, 36 pages. Ingersoll-Rand Co., 11 Broadway, Dept. NR, New York 4, N. Y. **IEN-01073**

EQUIPMENT . . Picture summary and condensed data on vibrators, feeders, electric tools, heating elements, selenium rectifiers, rock drills. Pocket Catalog 525, 52 pages. Syntron Co., 410 Lexington Ave., Homer City, Pa. **IEN-01074**

EQUIPMENT . . Informal summary on the company's line including pumps, engines, turbines, drives, positioners, liquid meters. "A Lot of Things besides Pumps", 32 pages. Worthington Corp., 423 Worthington Ave., Harrison, N. J. **IEN-01075**

FASTENINGS . . Grooved drive pins; drawings and application suggestions on five types, how grooves compress to lock. Folder, "Here's the Pin," 6 pages. John Gillen Co., 2552-56 S. 50th Ave., Cicero 50, Ill. **IEN-01076**

FASTENINGS . . Hairpin-type retainer springs that snap into a shaft groove; dimensions on 15 sizes for $\frac{3}{16}$ to $\frac{11}{16}$-in. grooves. Catalog 21-A, 2 pages. Precision Spring Corp., 802 W. Broadway, Three Rivers, Mich. **IEN-01077**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

If you write maker identify as IEN - 11496

SPEED HAND-LABELING ON HARD-TO-LABEL JOBS with Mystik Self-Stik LABELS

SPEED PRODUCTION—No moistening. Stick instantly.

EASY APPLICATION on hard-to-reach, hard-to-label surfaces.

FLEXIBLE and stretchable for curved or uneven surfaces.

PERMANENT—Resistant to stain, moisture, scuffing, delamination. Removable, if desired, without staining.

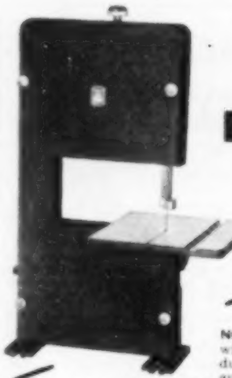
BEAUTIFUL—Finest color printing; die-cut; embossed; varnished or acetate laminated.

The outstanding qualities of MYSTIK LABELS are due to rubber-saturated stock and the strongly bonded rubber adhesive, providing strength, flexibility, toughness, strong adhesion and ease of handling. Write for full information and samples.

CHICAGO SHOW PRINTING COMPANY CHICAGO • NEW YORK

2644 NORTH KILDARE • CHICAGO 39

If you write maker identify as IEN - 11497



TOMLEE *Metal Cutting* **BAND SAW**

only $89.50
F.O.B. MINNEAPOLIS

NOW each bench can be equipped with a Tomlee to break your production bottleneck. It's a low cost auxiliary to your heavy duty metal cutting machine, so often kept tied up with big work. The rugged, cast iron Tomlee will cut any metal that will run through its 5⅞" throat. Large work table easily tilts to 45° and is grooved to take a mitre gauge for compound angle cuts. Ball bearings throughout, operates at 4 speeds. Delivered complete with simple instructions, a set of guides and a ⅜" blade. *Write for bulletin.*

Accessories

Band Saw Stand. All-steel cabinet for mounting motor and storing accessories. 15"x23"x29¾". $37.50

No. 31500 Mitre Gauge. $5.00
No. 455 Rip Fence. $5.00
½ HP Motor. 110-230 V. $43.50

ALL PRICES F.O.B. MINNEAPOLIS

TOMLEE TOOL & ENGINEERING CO.
721 Washington Ave. N., Minneapolis 1, Minn.

If you write maker identify as IEN - 11498

● Republic's Fairway Brand has a smooth tan cover. Champion is yellow. The one can be used in long continuous lines without couplings. The other is better around certain abrasive influences. Which would you select?

With due respect for your ability, we suggest you don't make the choice. Proper application of any Industrial Rubber Product is a job for an expert.

No one hose can possibly satisfy every job requirement without sacrificing ultimate performance. Contact your local Republic Distributor or write direct for a free analysis of your specific requirements.

Do it now and you'll be certain you're getting maximum performance at minimum cost.

INDUSTRIAL RUBBER PRODUCTS BY
REPUBLIC RUBBER DIVISION
Lee Rubber & Tire Corporation
YOUNGSTOWN, OHIO

If you write maker identify as IEN - 11499

TANK SETTLES . . . PIPE WALKS . . . BREAK AVOIDED WITH PENFLEX

Tank settlement . . . thermal expansion and contraction caused misalignment of pipe and the consequent breakage of rigid pipe connections on large oil storage tanks.

Today, this large New England storage center has no trouble with pipe breakage. A length of 12" I.D. four-wall interlocked specially packed Penflex tubing was installed with tight-packed flanges. No amount of settling of the tank of thermal expansion causes breakage of connections. The easy flexing Penflex "walks" with the tank . . . yet maintains a tight leak-proof connection at all times. Leakage has been eliminated . . . fire hazard reduced.

Let Penflex engineers help you on flexible tubing application problems. Write for "Flexineering," a valuable production aid.

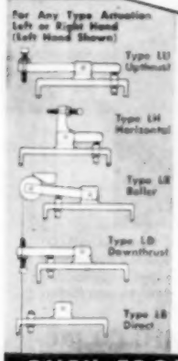
Pennsylvania Flexible Metallic Tubing Company, Inc., 7200 Powers Lane, Phila. 42, Pa.
Branch Sales Offices: Boston • New York • Chicago • Houston • Cleveland • Los Angeles

Penflex
HEART OF INDUSTRY'S LIFE LINES

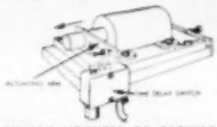
If you write maker identify as IEN-11500

NEW CYLINDER TIME DELAY CONTROL SWITCH
INCREASES APPLICATION . . . WIDENS USE OF CYLINDER POWER

For Any Type Actuation Left or Right Hand (Left Hand Shown)



Pneu-Trol Time Delay Switches provide independent hydraulically controlled adjustable time dwell between ¼ and 60 seconds in 20 to 1 ratios. Readily mounted on machine for cylinder dwell at a positive stop. Compactly designed—a simplified low cost answer to electrical time dwell control of any air or hydraulically operated machine movement such as press work, burnishing, coating, quenching, metal-cutting, etc. Ideal for automatic feeders.



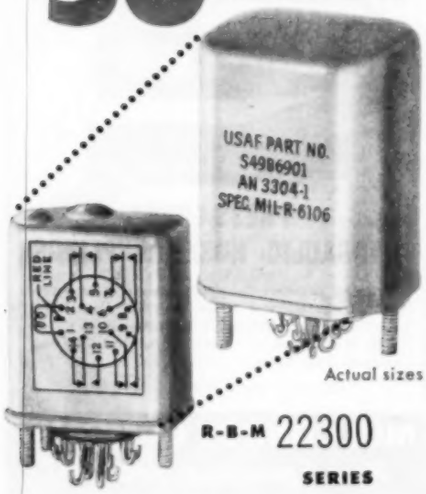
SWITCH MOUNTED TO PROVIDE DWELL AT END OF POWER STROKE

Write for descriptive literature and complete details.

PNEU-TROL DEVICES, INC.
1438 N. Keating Ave. Chicago 51, Illinois

If you write maker identify as IEN-11501

50% SMALLER % LIGHTER



Actual sizes

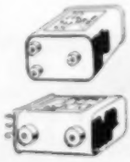
R-B-M 22300 SERIES

Hermetically Sealed Relays

The R-B-M 22300 hermetically sealed telephone type relay is the electrical and mechanical equivalent of AN 3304-1, except for smaller size and mounting dimensions.

An improved armature design, plus high temperature molded nylon coil bobbin, provides greatly improved magnetic efficiency and enables R-B-M to reduce the overall size of the relay. The R-B-M 22300 design still retains palladium cross-bar contacts identical to those used in the larger size.

Maximum contacts—6 Form A and 4 Form C—3 ampere 28 Volts. D. C. coil construction only. Maximum coil resistance 5000 ohms. Minimum power .75 watts. Also available in AN 3304 can for dynamotor or low capacitance application.



Optional Mounting Arrangements

Write Dept. L-10 for ASR Bulletin.

R-B-M DIVISION
ESSEX WIRE CORP.
Logansport, Indiana
MANUAL AND MAGNETIC ELECTRIC CONTROLS FOR AUTOMOTIVE, INDUSTRIAL, COMMUNICATION AND ELECTRONIC USE

If you write maker identify as IEN-11503

VISE . . Angle plate assembly with two removable adjustable jaws

Source: GREENLEAF CORP.
512-14 Franklin Ave., Dept. KST, Pittsburgh 21, Pa.

About $39 and $58

Squar-Up is a new assembly of angle plate and a pair of removable adjustable jaws. It is shown in position on a magnetic chuck to grind two faces on a work piece held against the shoulder on the angle plate.

The jaws carry fingers that ride in slots in the plate base. Knurled heads on the jaw screws can be turned by hand to grip and then can be tightened by applying a pin. Maximum jaw opening is 2¾ and 3 in. on the two available sizes. Base length is 4¾ and 5¾ inches. Width is 2½ and 3 inches. Weights are 5¼ and 8¼ pounds. Construction is in mild steel, carburized, hardened and ground.

If you write maker identify as IEN-11504

INSULATING . . Fiberglas sections for pipe from ⅜ to 33 inches

Source: OWENS-CORNING FIBERGLAS CORP.
100 Nicholas Bldg., Toledo 1, Ohio

Odorless
vermin proof
will not rot

The company announces increases in density of its previously developed preformed pipe insulation. The new material is available in hemi-cylinders measuring 3 ft. in length for pipe to 12 in. and in segments of the same length for iron pipe ranging from 12 through 33 inches.

Three types of jacket include a close weave muslin cloth, a vapor resistant foil-laminated design that suits the insulation for use under dual temperature conditions and on refrigerated lines, and a heavy water-proof roofing felt for outdoor use. Jackets for the hemi-cylinders are supplied.

If you write maker identify as IEN-11505

CASTER . . Swivel design available with 6, 8 or 10 in. wheel

Source: MIDWEST PRECISION CORP.
Hillsdale & Carpenter, Jackson, Mich.

The Loadmaster

Roller bearing riding in a 5 or 7-in. race takes the load under the top plate of this new caster. A second roller bearing takes thrust loading at the king pin. Both are Timken taper design. The wheel is mounted on a third roller bearing and is available in steel, Moldon rubber or plastic. The steel top plate measures ⅝ in. in thickness. The king bolt is 1½ in. in diameter. The caster has been designed particularly for application on trailers employed in industrial plants.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11506

MELRATH GASKETS

FULL OPEN HEAD
PAIL AND DRUM GASKETS

Designed to meet every service requirement. Tubular and solid rounds or sponge rubber for containers of liquids and semiliquids. Melco Fabritex Gaskets for use in drums of dry or powdered and semisolid products.

"There's a Melrath Gasket for Every Purpose!"

MELRATH SUPPLY & GASKET CO., INC.
3501 MEMPHIS ST., PHILADELPHIA 34, PA.

If you write maker identify as IEN-11507

EMERSON ELECTRIC EXHAUST FANS

for COMPLETE ventilation of commercial, industrial and institutional buildings

Belt Drive Exhaust Fans with 24 to 48-inch blades

In this complete line of exhaust fans, you'll find the right model for the majority of air-moving jobs . . . *right* blade size . . . *right* capacity . . . *right* mounting for installation at any angle.

Direct-Drive Exhaust Fans with 12 to 30-inch blades

And ALL Emerson-Electric Exhaust Fans provide quiet, trouble-free performance season after season. Each unit is backed by 62 years of precision design and manufacturing experience.

For further information write today for Bulletin No. T72.

THE EMERSON ELECTRIC MANUFACTURING CO.
St. Louis 21, Mo.

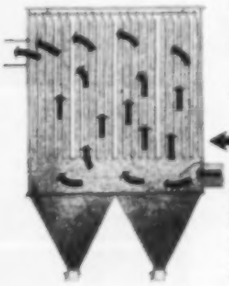
EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

If you write maker identify as IEN-11508

IT'S NEW!

PANGBORN
Cloth Bag Collector
for high-efficiency, low-cost dust collection!

This new Pangborn "CM" Cloth Bag Dust Collector extends the high-efficiency collection characteristics of the cloth filter to applications previously considered too costly. The Pangborn "CM" Collector is well adapted for collecting carbon black, graphite, pigments, soap, food dusts, metal oxides, and other dusts of similar characteristics. For further information, write for Bulletin 914 to: PANGBORN CORP., 2500 Pangborn Blvd., Hagerstown, Md.



- Adaptable to wide variety of industrial dust problems due to new bag design
- Individual bags can be inspected, removed, and replaced without tools and without disturbing other bags
- Built for trouble-free service through simplified design and use of fewer parts

Here's how it works:

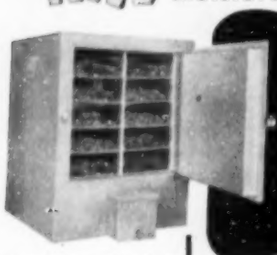
Dust-laden air enters from the piping system. Coarse materials precipitate directly to the hoppers below the bags. Air containing finer dust particles flows into the bags, where the dust is filtered on the inner surface of the bags. Cleaned air is then discharged from the collector.

Look to Pangborn for the latest developments in Dust Control and Blast Cleaning equipment

Pangborn DUST CONTROL
STOPS THE DUST HOG from stealing profits

If you write maker identify as IEN-11510

Kill moisture absorption



with DESPATCH ROD DRYING OVENS

For all types of baking, drying and curing

★

Ovens can be ducked—2-4-6 units

★

Automatically controlled—set it and forget it

★

Mesh shelving for total heat circulation

★

Conveniently portable for entire shop use

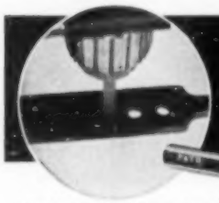
Electrodes in storage tend to pick up moisture—particularly low hydrogen, stainless steel and non-ferrous types. Despatch "WRD" Welding Rod Ovens provide lots of storage room in 10 spacious compartments and do a thorough, steady, dependable dehydrating job. *Specifications:* Outside dimensions—18" x 19" x 18". Max. Temp. 550° F; 1500 Watts; 250 lbs. rod capacity. *Write for Bulletin.*

DESPATCH OVEN CO. — 1908

337 DESPATCH BUILDING
MINNEAPOLIS 14, MINNESOTA

If you write maker identify as IEN-11511

Drill Hardened Steels without Annealing—



USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—
With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1378 East 222nd St. • Cleveland 17, Ohio

Also makers of—
BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

If you write maker identify as IEN-11512

HILD Heavy-Duty PORTABLE VACUUM

Always Ready for Wet or Dry Dirt Removal

No adjustments to make . . no filter to change when switching to wet pick-up work. Moisture in vacuum or steam cannot damage Hum-Bi-Pass Motor. Special attachments for scores of clean-up jobs. Two sizes: 10 or 40 gallon liquid capacity.

1937-1962 HILD System MAINTENANCE EQUIPMENT & SUPPLIES — OVER 25TH YEAR

Write for FREE CIRCULAR

HILD FLOOR MACHINE CO.
740 W. Washington Blvd., Dept. IEN-10, Chicago 6, Ill.

NEW LITERATURE—Continued

FASTENINGS . . Clip-type units for edge fastening of metal panels in blind locations; standard sizes, material weights, hole sizes recommended. Sheet 130-6-9, 2 pages. Prestole Corp., 1325 Miami St., Toledo 5, Ohio. **IEN-01078**

FASTENINGS . . Panel-joining screw fasteners, door latches, spring grip units, blind drive rivets, threaded anchor nuts; sizes, uses. Catalog B-2, 22 pages. South Chester Corp., N. Printz Blvd. & 3rd, Lester, Pa. **IEN-01079**

GAGES . . Precision level to use in checking machine beds, leveling machinery; construction highspots, notes on design. Circular 544, 4 pages. Pratt & Whitney, 49 Charter Oak Blvd., West Hartford 1, Conn. **IEN-01080**

GEARS . . Made to specification; range of company's production service on bevel, worm, helical, spur, other types, illustrated facilities. "Gear Errors. .", 4 pages. Sier-Bath Gear Co., 9250 Hudson Blvd., North Bergen, N. J. **IEN-01081**

HANDLING . . Steel shop boxes, stacking boxes, small parts cabinets, drawers, work stands, shelf and service carts; descriptions, list prices. Catalog DMU, 16 pages. Bay Products Inc., 3003 N. 16th St., Philadelphia 32, Pa. **IEN-01082**

HARD FACING . . Materials for torch and arc application; selection chart, properties, description on "Sprayweld" application method, castings. Manual 77, 12 pages. Wall-Colmonoy Corp., 19343-47 John R. St., Detroit 3, Mich. **IEN-01083**

HEADS . . Flanged and dished steel heads for tanks and fabricated steel parts; drawings and data on stock types and sizes, specials. "Heads", 4 pages. Joseph T. Ryerson & Son Inc., P. O. Box 8000-AA, Chicago 80, Ill. **IEN-01084**

HEATING . . Electronic induction heating unit to solder, braze, harden, anneal metal parts, 1,500 watts output; specifications, uses. "Lewis 1500", 4 pages. Lewis Machine Co., 89-94 Newcomb St., Dept. KP, St. Paul 6, Minn. **IEN-01085**

HEATING . . Portable fuel-burning space heaters; picture uses in thawing equipment, heating construction work and exposed locations. Bulletin 3000, 24 pages. Herman Nelson Div., 1822-26 Third Ave., Moline, Ill. **IEN-01086**

HEATING . . "Thermobloc" direct-fired space heaters in sizes to 2,000,000 btu. output; specification on six models, cutaway view, uses. Bulletin GNC, 8 pages. Prat-Daniel Corp., 2 Meadow St., South Norwalk, Conn. **IEN-01087**

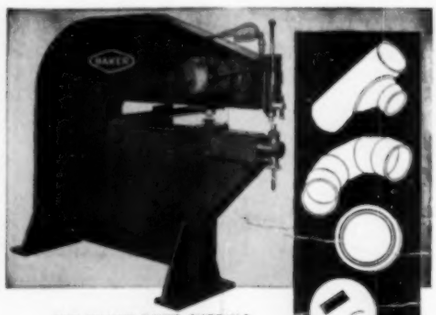
HEAT TREATING . . Standard batch furnaces for case-hardening steel parts; review on salt-bath, oven-type, muffle furnaces. Bulletin SC-150, 4 pages. Surface Combustion Corp., 2373-77 Door St., Toledo 1, Ohio. **IEN-01088**

HOSE . . Rubber-fabric type; data summaries on five designs that replace 18 former designs for air, gas steam, water, oil, solvents, acids. Bulletin, "Basic Five", 8 pages. Thermoid Co., 350 Whitehead Road, Trenton 6, N. J. **IEN-01089**

INSULATING . . Blanket, board, cement, fill, pipe covering, based on black mineral wool; properties, application instructions, list prices. Catalog J-1, 20 pages. Baldwin-Hill Co., 1040 Bressing Ave., Trenton 2, N. J. **IEN-01090**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11513



FOR HEAVY DUTY CUTTING
IT'S THE BAKER TRU-EDGE SHEAR
CHECK THESE FEATURES

- BURR FREE EDGE
  no finishing operation necessary
- EASY TO OPERATE
  no starting hole necessary
- 48" THROAT
- DOES BEADING AND FORMING
- CUTS 10 TO 36 FEET PER MINUTE
- ONLY 5 MOVING PARTS
- CAPACITY 6 GAUGE IN MILD STEEL
  7 GAUGE IN STAINLESS STEEL
- DELIVERY FROM STOCK
- COST? . . . $1960.00 f.o.b. TOLEDO

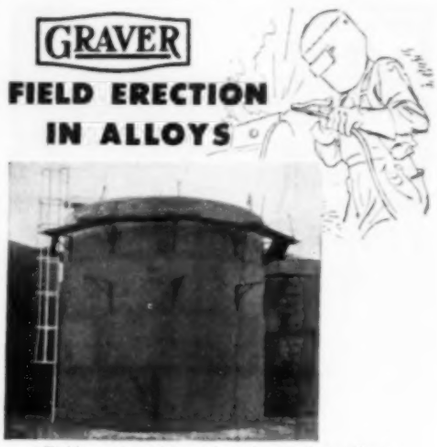
In actual cases on record, the Baker Tru-Edge Contour Shear cuts operating time to less than 1/10 of the time required on other machines. The Tru-Edge Contour Shear is made by Baker Brothers, Inc., under license from Industrial Devices Corp., Detroit, Mich.

BAKER BROS., Inc. Toledo, Ohio
Makers of Better Machine Tools . . . Since 1867

If you write maker identify as IEN-11514

GRAVER

FIELD ERECTION IN ALLOYS



Field erection of special steels, stainless, alloys, clads and aluminum requires special techniques and specially trained crews. Graver's experience—as old as the use of alloys—assures successful, long-lasting process equipment.

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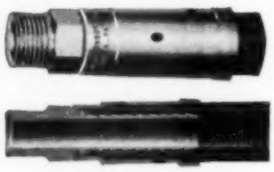
NEW YORK • CHICAGO • PHILADELPHIA • WASHINGTON
DETROIT • CINCINNATI • CATASAUQUA, PA.
HOUSTON • SAND SPRINGS, OKLA.

If you write maker identify as IEN-11515

Longer Service Life for Hydraulic Hose



"PRESS-LOCK"
HYDRAULIC HOSE COUPLINGS

Write for literature completely describing the super-strong, super-efficient "Press-Lock" Coupling. Available on Mulconroy Hydraulic Hose Assemblies for all types of equipment, or attached to *your* hydraulic hose shipped to our factory.

"Mulconroy Starts Where Others Stop"

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Hose Specialties Since 1887
5327 JEFFERSON ST., PHILA. 31, PA.

If you write maker identify as IEN-11516

the *New* SAF-I-SPEC SAFETY SPECTACLE

Full Protection from Impact Hazards

- Smart Appearance
- Replaceable Lens
- Genuine Comfort
- Rugged—Tough
- Optically Correct
- Low Cost
- Made of Optilite

Write for literature and prices

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KANSAS CITY, MISSOURI — BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada: FARMELEE, LTD. Toronto

If you write maker identify as IEN-11517

STRETCH MANPOWER

with

ELECTROLIFT

worm drive hoist

Just one man can lift and move those heavy loads around your plant, with ElectroLift.

Safe, compact, smooth, quiet, fast . . . with a choice of many models for any use. Capacities up to 6 tons. Optional pushbutton control gives pin-point accuracy.

For further features, consult your Electro-Lift representative in telephone directory.

ELECTROLIFT

ELECTROLIFT, INC., 30 CHURCH ST., NEW YORK 7, N. Y.

If you write maker identify as IEN-11518

USE THE RIGHT TAP

(HOW TO DO MORE TAPPING WITH FEWER TAPS)

SPIRAL FLUTE TAPS ARE MADE AS STANDARD WITH RIGHT-HAND SPIRAL FLUTES DESIGNED TO GIVE A SHEARING CUT IN ORDER TO CARRY CHIPS UP AND OUT OF THE HOLE. THIS ACTION IS ACTUALLY THE OPPOSITE OF THE SPIRAL POINT TAP. THESE ARE COMMONLY USED FOR DEEP HOLE TAPPING IN BLIND HOLES WHERE IT IS ADVANTAGEOUS TO REMOVE THE CHIPS FROM THE HOLE.

SPIRAL POINT TAPS, COMMONLY CALLED "GUN POINT" TAPS, ARE MADE TO DRIVE CHIPS AHEAD OF THE TAP. THESE ARE USED FOR PRODUCING MOST OPEN HOLE THREADS. THIS TAP IS INHERENTLY STRONGER THAN THE REGULAR STRAIGHT-FLUTE TAP BECAUSE THE FLUTES ARE SHALLOWER AND ARE NOT USED FOR CHIP CLEARANCE. CUTTING IS ALL DONE IN THE SPIRAL POINT.

THREAD MORE HOLES WITH FEWER TAPS INSIST ON . . .

HY-PRO TAPS

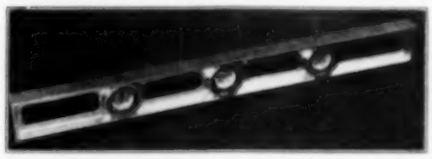
HY-PRO TOOL COMPANY

NEW BEDFORD, MASS., U. S. A.

If you write maker identify as IEN-11520

GAGE . . Spirit level made of die cast magnesium, 20 ounces

Source: MAYES BROS. TOOL MFG. CO.
852 Mayes St., Port Austin, Mich.



Gaging surfaces accurately finished

Number 5424 designates this new 24-in. die cast magnesium spirit level. Vial openings are finished with white plastic inserts. The lenses are sealed with special putty to keep them moisture, dust and dirt free. A rib section imparts rigidity. Finish is in bronze color.

If you write maker identify as IEN-11521

TACHOMETER . . Electric drive to measure speeds under 199 rpm.

Source: METRON INSTRUMENT CO.
430-34 Lincoln St., Denver 9, Colo.

Generates current

Series 57-M designates a new geared-head generator unit for use with the company's electric tachometer to measure speeds from fractional rpm. to a maximum of 199 rpm. The unit is equipped with a ¾-in. drive shaft mounted on sealed ball bearings for connection to the rotating element where speed is to be measured. A threaded opening provides for conduit connection to handle the wiring.

If you write maker identify as IEN-11522

HANDLING . . Adjustable fixture to carry work through an assembly line

Source: WILTON TOOL MFG. CO.
927-39 Wrightwood Ave., Chicago 14, Ill.

Quotations on request

Illustrated is a new custom built assembly of the company's adjustable ball-and-socket Powrarm mounted on a wheel equipped base. It supports a special fixture that carries work through an assembly operation. Ball-bearing wheels, the same as those employed on roller skates, are assembled on the base to ride on a track mounted on a long assembly table. Spring stops hold the unit at each assembly position along the line. The Powrarm permits setting the fixture at any desired compound angle.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11523

Now...Spring Makers and Spring Users alike have a Uniform Method for Testing Springs!

THE TORRINGTON SPRING TESTER

Uses: for accurate inspection, in-use testing, designing springs for specific uses, and as a basis for statistical quality control.

Simple: can be used at operating levels by relatively inexperienced personnel. Portable!

Accurate: 2 models—the 3 pound model measures loads to the nearest 1/100 ounce, and the 16 pound model to the nearest 1/5 ounce; lengths and deflections to 1/1000 inch.

Fast: requires minimum time to adjust for accurate readings, or to reset for other springs.

Practical: measures under conditions approximating actual use, through interchangeable fittings.

High sensitivity: over a wide range, on both tension and compression types of springs.

For complete information please write:

The TORRINGTON manufacturing company TORRINGTON, CONNECTICUT

WORLD'S LARGEST BUILDERS OF SPRINGMAKING MACHINERY

If you write maker identify as IEN-11524

BROWNHOIST BUILDS BETTER BUCKETS

• BUY DIRECT FROM FACTORY FOR LESS

• ROPE REEVE, LINK TYPE POWER WHEEL

• WRITE FOR CATALOG

INDUSTRIAL BROWNHOIST CORP.
BAY CITY, MICHIGAN

156

If you write maker identify as IEN-11525

It's NEW!

It's FAST!

TOLEDO® SPEEDWEIGH OVER-UNDER SCALES

Here's *new speed with accuracy* for you in check weighing, packaging, many other operations today . . . 3 sizes—to 5 lb., to 20 lb., to 50 lb.! Shadowfree wide-angle reading . . . accurate to 1/64 of an ounce . . . new improved knife-edge check link system . . . *exclusive* "coined" bearings for greater accuracy, longer life . . . stainless steel beam . . . enclosed levers in one-piece housing . . . choice of platters and scoops . . . many more *plus* features! Write for bulletin 1416. Toledo Scale Company, Toledo 1, Ohio.

TOLEDO® Headquarters for SCALES

If you write maker identify as IEN-11526

Valuable tips on protecting pipeline equipment with strainers

Here's a bulletin that can save your plant hundreds of dollars. Tells you what pipeline equipment is vulnerable to sediment damage . . . and needs protection with strainers. Also contains complete data on Anderson self-cleaning strainers. You'll be amazed at the low cost of these high quality strainers. Mail coupon today.

THE V. D. ANDERSON CO.
1931 West 96th St. • Cleveland 2, O.
Gentlemen: Please send without obligation your new 1952 Strainer Bulletin.
Name
Address
City State

If you write maker identify as IEN - 11527

UNTIL RECENTLY the performance characteristics of pure-bristle brushes had never been duplicated in those made of synthetic materials. Now, because of Robinson's careful expert tipping and blending of nylon filaments, *TIPPED* nylon brushes contain all the qualities of pure bristle brushes . . . flexibility, resilience, taper and good length out. Robinson *TIPPED* nylon brushes are superior in painting performance . . . they pick up more paint and lay it down faster, smoother.

An outstanding reception is given to Robinson's *TIPPED* nylon brushes by maintenance, production, and master painters alike. Try them yourself! They are available through Distributors, Paint and Oil Dealers or Hardware Stores. Catalog mailed on request.

EDWARD E. ROBINSON
INCORPORATED
P.O. Box 147
55 PARK AVENUE · BUTLER 10, N. J.
Telephone Hilltop 7-6510

If you write maker identify as IEN - 11528

NEW 6-7000 lb FORK TRUCKS BY CLARK EQUIPMENT

They're as Modern as your planning for the Future

The NEW, Improved UTILITRUCS . . .

set a new high in fork-truck design and construction

Advanced features insure longer life, lower cost, greater ease of operation, and increased work capacity. They are rougher and tougher than any handling job in the 6,000-7,000-pound range, that any stevedoring boss, foundry boss or steel-mill foreman can dream up.

The detailed features of these new UTILITRUCS show why they master the ever-increasing burdens put upon materials handling equipment by modern production methods and techniques. See for yourself why they set new high standards for the fork truck industry.

✓ "Dynatork-Drive"
✓ Dynamic Braking
✓ Clark "Quick-Change" Clutch

BOTH POWER TYPES . . . have all these improvements

✓ Compact—Maneuverable
✓ New Fork Mounting
✓ 25" FREE-LIFT
✓ Increased Driver Visibility
✓ Center-Pivoted Steering Axles
✓ Ease and Convenience of Service
✓ Increased Driver Comfort
✓ Cushion Tires Standard
✓ Increased Travel Speed
✓ Increased Lifting Speed
✓ Automatic Acceleration
✓ Larger Battery Compartment
✓ Protection Against Dust and Dirt
✓ Increased Braking Efficiency
✓ Dynamic Braking

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION · CLARK EQUIPMENT COMPANY · BATTLE CREEK 69, MICHIGAN
Please send: ☐ Utilitruc Literature ☐ Material Handling News
☐ Have Representative Call
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Firm Name
Address
City Zone State

AUTHORIZED CLARK INDUSTRIAL TRUCK SALES AND SERVICE STATIONS IN STRATEGIC LOCATIONS

NEW LITERATURE—*Continued*

INSULATING . . Rubber, friction and plastic tapes; information on electrical and other properties, standard sizes and package quantities. Folder P-1, 4 pages. Ideal Industries Inc., 1050 Park Ave., Sycamore, Ill. **IEN-01091**

INSULATING . . Square, rectangular and round tubes of paper and plastic, list of some 1,500 available arbors and selection notes. "Arbor List", 16 pages. Precision Paper Tube Co., 2061 W. Charleston St., Chicago 47, Ill. **IEN-01092**

LIGHTING . . "Acusti-Luminus" ceiling to combine lighting, heating, cooling, sound absorption; drawings, examples, test data on performance. Bulletin, 8 pages. Luminous Ceilings Inc., 2502 W. North Ave., Chicago 47, Ill. **IEN-01093**

MAGNETS . . Sintered Alnico II permanent magnets; drawings, dimensions and weights on standard shapes, suggestions on ordering. Catalog 12, 12 pages. Indiana Steel Products Co., 47 Thomas St., Valparaiso, Ind. **IEN-01094**

MARKING . . "Scotch" pressure-sensitive tapes to label, decorate, identify; picture suggestions on uses from pipe lines to packages. Folder PC-FDTM5, 6 pages. Minnesota Mining & Mfg. Co., 902 Fauquier St., St. Paul 6, Minn. **IEN-01095**

MARKING . . Pressure-sensitive labels for pipe-line, cable, conduit identification; description, examples, insert sheet on stock types. "Tel-A-Pipes", 4 pages. Western Lithograph Co., 602-6 E. 2nd St., Los Angeles 54, Calif. **IEN-01096**

METAL TREATING . . Phosphate coating materials for metal products prior to painting; details on immersion and spray methods. "Phosphate Coatings", 8 pages. Detrex Corp., 14329 Woodrow Wilson, Detroit 32, Mich. **IEN-01097**

MOTOR CONTROL . . "Variac" variable-speed control for ¾-hp. and smaller dc. motors from ac. supply; selection chart, schematic circuits. Bulletin 792-A, 8 pages. General Radio Co., 273-77 Mass. Ave., Cambridge 39, Mass. **IEN-01098**

MOTORS . . Splashproof induction motors for outdoor use, 50 to 4,000 hp.; details on fabricated steel construction, method of ventilation. Bulletin PH-7040-3, 4 pages. Elliott Co., 49 Kenley St., Jeannette, Pa. **IEN-01099**

PACKAGING . . Illustrated information on 35 types of automatic cartoning and wrapping machines for products from chewing gum to peroxide. Catalog, 36 pages. F. B. Redington Co., 110-14-AK S. Sangamon St., Chicago 7, Ill. **IEN-01100**

PIPE FITTINGS . . Standard units for light-weight pipe 3 to 30 in. i.d.; dimensional drawings and tables, examples of special pipe fabrication. Bulletin 525, 4 pages. Naylor Pipe Co., 1228-32 E. 92nd St., Chicago 19, Ill. **IEN-01101**

PIPE FITTINGS . . Threaded nipples in standard packages and assortments; quantities and weights from close to 6 inches. "Pipe Nipples", 4 pages. Pittsburgh Nipple Works Inc., 1453-57 Spring Garden Ave., Pittsburgh 12, Pa. **IEN-01102**

PLASTICS . . Condensed review on line of molding materials, industrial resins, coating resins; properties and uses. Condensed Catalog, 4 pages. Durez Plastics & Chemicals Inc., 6 Walck Road, North Tonawanda, N. Y. **IEN-01103**

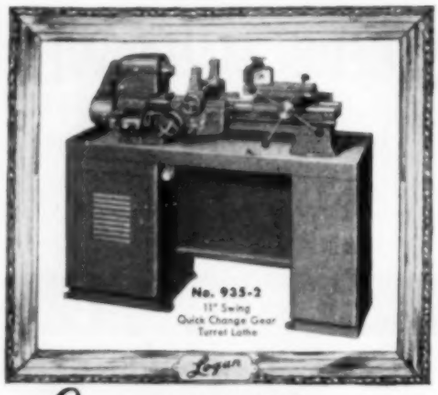
All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11530

Whatever your spring wire requirements—consult with Seneca! Our production *geared to precision* in manufacturing oil tempered and hard drawn wire—round and flat—for all types of high grade mechanical springs. Seneca uniformity and dependability help the spring manufacturer produce high quality springs at low cost. Write . . . Seneca Wire & Mfg. Company, Fostoria, Ohio. Representatives in principal cities.

SENECA ROUND AND FLAT SPRING WIRE
WIRE & MFG. COMPANY · FOSTORIA, OHIO

If you write maker identify as IEN - 11531



Logan **LATHES**
Put Profit in Production

With its 11" swing, 1" collet capacity, and 1-3.8" spindle hole, today's Logan Lathe handles **more** production work, **more profitably** than ever before. Easy to set up. Ball bearing mounted Logan spindle has the sustained accuracy at high speeds to hold precision tolerances. Accurate, durable Logan construction keeps production going at top efficiency, at minimum cost per finished part.

WRITE FOR CATALOG—FULL DETAILS ON SCREW CUTTING AND TURRET LATHES AND SHAPERS

LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago, 30, Illinois

If you write maker identify as IEN - 11532

CALCULAGRAPH

figures elapsed time accurately

Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.

Write for full information today, to Dept. A.

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

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ALL PEERLESS MOTORS ARE "Peerless Registered"

MORE than 90% of all Peerless Motors are custom manufactured to meet the specific operating requirements of the equipment with which they are to be used. So we "Peerless Register" every motor before shipment. The words "Peerless Registered" are a trademark, recorded in the U.S. Patent office. Only Peerless Motors can bear this phrase, and only Peerless Motors offer you this protection. This registration record is assurance to both you and your customer that the Peerless Motor has been properly designed for your equipment so as to give best possible performance and long, satisfactory service. And the registration record makes possible the quick identification of any Peerless Motor—anywhere.

THE PEERLESS ELECTRIC CO., WARREN, OHIO
Manufacturers of Quality Motors Since 1893
Single Phase • Polyphase • Direct Current • ¼ to 15 H.P.

Peerless-Electric MOTORS·FANS·BLOWERS

If you write maker identify as IEN - 11535

STOP AIR NOISES!

Stop those ear-splitting air blasts in your lube room, shop and other places where air must be exhausted. The Rotary Air Muffler fits any standard ½" air valve and is easily attached. Withstands working pressures up to 175 lb. p.s.i. Guaranteed 12 months—thousands have been in use 10 years or more. Send your order today. Money refunded if not 100% satisfied.

ROTARY LIFT CO.
1190 Kentucky, Memphis 2, Tenn.
World's largest in hydraulic lifting equipment.

If you write maker identify as IEN - 11536

If you write maker identify as IEN - 11537

TRUCK . . Power lift fork design based on standard tractor in reverse

Source: TRACTO-LIFT CO.
2009-13 Baltimore Ave., Dept. IEN, Kansas City 8, Mo.

Rear end counter weighted

Three new sizes, rating 5 to to 7½ ton, have been added to the company's Power King line of tractor-based fork lift trucks rating 1½ to 3 ton, previously described IEN-5545-52. The new machines can be equipped with forks ranging from 36 to 108 in. in length in 6-in. steps.

The tractor will operate up up a 20 per cent grade with a rated load. It has six speeds forward and reverse. It provides 12 in. of underneath clearance for operation on rough unpaved ground. It is primarily for outdoor handling and storage operations.

If you write maker identify as IEN - 11538

HANDLING . . Five quart pail made of terneplate for general use

Source: GEORGE D. ELLIS & SONS INC.
4042-46 N. American St., Philadelphia 40, Pa.

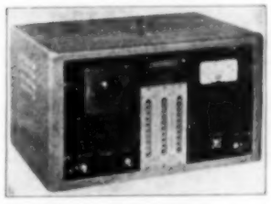
Generally useful

Painter's Pot, previously developed by the company to mix and handle paint on the job, is now available in two designs for general use in plant. One has a bead reinforced rounded top edge. The other has a sharp top edge as in the company's original design. Both measure about 7½ in. in diameter by 7½ in. in height.

If you write maker identify as IEN - 11539

COUNTING . . Electronic equipment rates to 500,000 units per second

Source: NUCLEAR MEASUREMENTS CORP.
2448-52 N. Arlington St., Indianapolis 44, Ind.



For precision scaling

Model DU-1 is a new electronic counter characterized by its ability to disclose counting errors as it operates. Counting is actuated by an input pulse of 140 volts with a rise time within 0.5 microsecond. A 140-volt pulse within the counter is provided to drive a mechanical numeral register circuit mounting six counter wheels.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11540

Don't let metal shortages slow up production. Sillcocks-Miller engineers have the practical answer for you in dials of all types fabricated from plastic.

No matter what your dial requirements may be, it will pay you to consult Sillcocks-Miller. Their experience, facilities and precision techniques will help you solve present metal shortage problems.

Write for samples and quotations.

The SILLCOCKS-MILLER Company

Pioneers in Plastic Fabrication since 1910
27 W. Parker Ave., Maplewood N. J.

If you write maker identify as IEN - 11541

If you write maker identify as IEN - 11542

If you write maker identify as IEN - 11543

These are Hamilton Shallow-Drawer Units. They should be at work safeguarding the tremendous investment your tracings represent. You get an extra margin of protection in the Shallow-Drawer Unit's flat, *compressed* storage and in the action of the patented Tracing Lifter, which insures safe, simple removal and replacement of *any* drawing in each drawer.

If you are not yet using this better filing equipment, learn more about Shallow-Drawer Units. See your Hamilton Representative or write direct to—

DRAFTING EQUIPMENT DIVISION
Hamilton Manufacturing Company
TWO RIVERS, WISCONSIN

If you write maker identify as IEN - 11544

Keep Lubrication Fittings Clean

with S.S. WHITE ELASTOPLASTIC CAPS

Here's a tip that will help cut maintenance costs and prolong bearing life . . . use these inexpensive flexible plastic caps on your lubrication fittings. They'll keep the fittings free from the dirt and grit that's often forced into the bearings when the grease gun is applied. The caps can be slipped on and off with ease — and once on, won't shake loose. They're also unaffected by oil, grease or water.

Sizes for Hydraulic, Button Head or ⅛" Dot Type Fittings. Order a supply.

BULLETIN P-5103 has details. Ask for a copy.

THE S.S. White PLASTICS DIVISION
DENTAL MFG. CO.
Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN - 11545

30 DAY DELIVERY

HOW TO SPEED PRODUCTION
HOW TO SAVE ⅓ INSTALLATION SPACE
HOW TO GET MORE BORE POWER
HOW TO SAVE MONEY

Use Dependable, Powerful

O-M CYLINDERS

AIR—WATER—HYDRAULIC

In full range of sizes (1½" to 8" bores). All machined steel with bearing bronze throughout. Interchangeable parts and mounting brackets.

FREE CATALOG — Brand new 28 pages of specifications, diagrams, and parts listing.

Free Templates — Complete set. Show all cylinders and mounting brackets. ½ or ¼ scale.

Write today to

ORTMAN MILLER MACHINE CO.
1208 150th St., Hammond, Indiana

If you write maker identify as IEN - 11546

For 30 years, we have been working with all kinds of metals . . . making all sizes and types of crankshafts, eccentric shafts, and drive shafts to precise and exacting specifications. Our manufacturing skill, combined with our experience, produces shafts of absolute fit—eliminates reworks and rejects.

If you use shafts in your product, regardless of your requirements, you can look to us as a dependable source of supply. Send us your specifications today. We will contact you promptly.

YORK Electric & Machine Co., Inc.
YORK, PA.

Makers of BILTWELL-FOREMAN *Axle Shafts for the automotive industry . . . with world wide distribution.*

"WHERE PRIDE OF PRODUCT PREVAILS"

NEW LITERATURE—Continued

PLASTICS . . Laminated materials for electrical, chemical and mechanical use; grades, forms, properties, suggestions on applications. Bulletin 314, 16 pages. Formica Co., 4612-22 Spring Grove Ave., Cincinnati 32, Ohio. **IEN-01104**

PLATING . . "Unichrome 218-X" rack coating based on vinyl plastic; condensed information on properties, notes on other uses. Leaflet RC-2, 2 pages. United Chromium Inc., 100 E. 42nd St., Room 1728, New York 17, N. Y. **IEN-01105**

PLIERS . . List of 144 pliers and adjustable wrenches against corresponding tools of 51 other makes. "Comparative Tool Chart", letterhead request. 8 pages. Utica Drop Forge & Tool Co., 2413-17 Whitesboro St., Utica 4, N. Y. **IEN-01106**

PRESSES . . "Press-Rite" open-back inclinable presses; specifications on a line of models from 5 to 85 ton, clutch details. Bulletin P-552, 8 pages. Sales Service Machine Tool Co., 2361-65 University Ave., St. Paul 4, Minn. **IEN-01107**

PROTECTING . . Fire fighter suit with provision for oxygen breathing apparatus, originally for the U.S. Navy; description. "Navy Fire Suit", 4 pages. Quaker Safety Products & Mfg. Co., Juniper & Main Sts., Quakertown, Pa. **IEN-01108**

PUMPS . . Pneumatic units to mount in materials drums and spray or dispense heavy mastics to light fluids; models, accessories. Catalog 40, 12 pages. Lincoln Engineering Co., 5732 Natural Bridge Ave., St. Louis 20, Mo. **IEN-01109**

REFRIGERATING . . Pressure gages, thermometers, regulating valves, solenoid valves, all for refrigeration use; condensed data, list prices. Price Bulletin 275, 8 pages. Marsh Instrument Co., 3593 Howard St., Skokie, Ill. **IEN-01110**

RESISTORS . . Composition and wire-wound types, also rheostats, tap switches, chokes; dimensions, ratings, list prices, application notes. Catalog 24, 20 pages. Ohmite Mfg. Co., 4876 W. Flournoy St., Chicago 44, Ill. **IEN-01111**

RESISTORS . . Precision wire-wound units; summary on differences between JAN-R-93 and MIL-R-93A specifications, table of company's units. Bulletin L-27, 2 pages. Shallcross Mfg. Co., S-12 Jackson Ave., Collingdale, Pa. **IEN-01112**

RESISTORS . . Fixed composition units for JAN-R-11 specifications; types, construction, resistance ranges, and a list price schedule. Bulletin, 4 pages. Stackpole Carbon Co., 1942 Tannery St., St. Marys, Pa. **IEN-01113**

SAWING . . Circular sawing machines for metal; Bulletin 375, No. 3 machine to 12 in.; Bulletin 475, No. 4 machine to 16½ in.; 4 pages each. Motch & Merryweather Machinery Co., 715 Penton Bldg., Cleveland 13, Ohio. **IEN-01114**

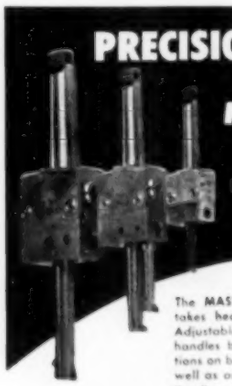
SEALING . . Molded cups for pump pistons, hydraulic and pneumatic service; selection chart, dimension tables, ordering instructions and forms. Bulletin AD-145, 6 pages. Garlock Packing Co., 248-52 Main St., Palmyra, N. Y. **IEN-01115**

SILICONES . . Properties of silicone rubber and how they are employed in product design, available classes and specifications. "Imagineering", CDS-3, 24 pages. General Electric Co., 101 Plastics Ave., Pittsfield, Mass. **IEN-01116**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11547

PRECISION BORING with MAX-WELL-MADE MASTUR TOOLS



The MASTUR adjustable boring head takes heavier cuts at higher speeds. Adjustable to 0.0002-inch, this tool handles both rough and finish operations on boring and milling machines as well as automatics.

Small and compact, the MASTUR precision boring head can be inserted easily and positioned rapidly. Both body and block are made of heat-treated alloy steel. Tool block is dove-tailed into body, and all fitting surfaces are ground to assure precision fit and long service life.

Adjusting screw head is graduated into 50 divisions to provide readings in thousandths, and body is graduated to permit vernier readings of 0.0002 inch. Three models are available having maximum boring bar capacities of ½, ¾ and 1 inch, with boring range from ⅝ to 15 inches.

Write for catalog.

THE MAXWELL COMPANY
380 Broadway • Bedford, Ohio

If you write maker identify as IEN - 11548

*Overcured Sections

Here Lies a Good Conveyor Belt ...killed by OCS*

—BWH ROTOCURE prevents these fatalities—look for it in the belts you buy

When you buy a BWH conveyor belt made by the *continuous* ROTOCURE process of vulcanization you obtain a *uniformly strong* belt *overall*. The weakened segments due to overlapping that sabotage operations and inflate belting costs are completely eliminated. With continuous, endless vulcanization you will be ahead 4 ways:

1. In increased belt flex life — as much as 40%
2. In elimination of mechanical distortion at the press ends
3. In constant, uniform stretch
4. In uniform, abrasion-resistant covers

Ask your BWH distributor to show you how these highly serviceable belts can help you. Or write us direct.

Another Quality Product of
BOSTON WOVEN HOSE & RUBBER CO.
Distributors in all Principal Cities
Plant: Cambridge, Mass. • P. O. Box 1071, Boston 3, Mass., U. S. A.
Warehouse Stock, 111 North Canal St., Chicago, Illinois

If you write maker identify as IEN - 11549

RED TYE Drawstring Bags

Fine quality cotton bags for mailing and storage of small parts and samples. Also twin mailers with envelope for letter and sturdy cotton bag for sample or part. There is a Red Tye parts bag, and mailing bag for just about every need. Write us today for information. Your inquiry will be given prompt attention.

CHASE BAG Co.
General Sales Offices:
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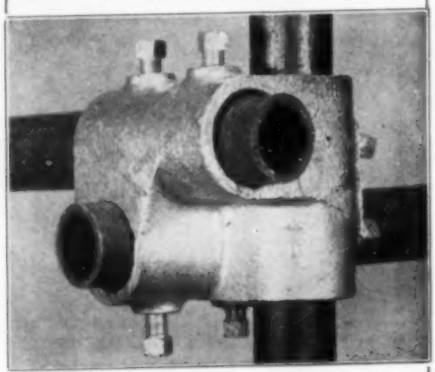
Chicago 6, Ill.

If you write maker identify as IEN - 11550

MAKE YOUR OWN SCAFFOLDS WITH PIPE



MAINTENANCE AND CONSTRUCTION MEN ARE BUILDING

Safe, durable, adjustable, frame and rolling scaffolds to suit their desire and needs for all of their easy and difficult jobs with:

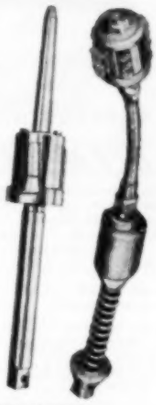
AMIDON FITTINGS
and standard pipe-pictures available

AMIDON ENGINEERING CO., ELYRIA 14, O.

If you write maker identify as IEN - 11551

Wilsonize

- to *beat* the clock on down-time
- to get *better* tube maintenance



Choked or clogged tubes lower the efficiency of your tubular apparatus . . . result in costly down-time. But with Wilson Tube Cleaners on the job, even the toughest deposits are thoroughly removed from tubes of boilers, heat exchangers, stills, evaporators, etc. Tubes are left spic-and-span, ready for more service. And best of all, Wilson Tube Cleaners do their work in a hurry . . . help you beat the clock on down-time.

You get equally efficient service from Wilson Tube Expanders. They make rolling of new tubes . . . re-rolling of old tubes . . . quick and easy. These precision-manufactured tube expanders insure solid seating. They are available in all sizes, flaring and non-flaring types.

TWO BULLETINS—48-page Catalog describing complete Wilson Tube Cleaner line and up-to-the-minute Tube Expander Catalog—are available. A single request brings both.

THOMAS C. WILSON, INC.
21-11 46th AVENUE, LONG ISLAND CITY 1, N. Y.
CABLE "TUBECLEAN" NEW YORK

WILSON TW 7874

WILSON TUBE CLEANERS • WILSON TUBE EXPANDERS

If you write maker identify as IEN - 11552

Save Money with U. S. Royalite Tote Boxes!

Impervious to factory damage hazards, tote boxes made of U. S. Royalite save you money all around!

Tough, lightweight U. S. Royalite is waterproof, stainproof, not affected by oils, alkalies, most acids. Tote boxes made of this durable plastic are of *one-piece design* without rods, rivets, or seams. No metal parts to break, rust or corrode.

Speed up production line operations . . . cut manual handling time with U. S. Royalite tote boxes. Available *now* in a wide range of widths, depths and colors.

CHECK LIST OF ADVANTAGES OF U. S. ROYALITE TOTE BOXES

- ✓ Available immediately in any size
- ✓ Tough—will last indefinitely
- ✓ Lightweight
- ✓ Highly resistant to impact, non-splintering
- ✓ Not affected by oils, alkalies, most acids
- ✓ Color-permeated throughout for easy departmental segregation
- ✓ Will stack or nest
- ✓ Adaptable to any type conveying system
- ✓ Non-warping, non-corrosive
- ✓ Waterproof, stainproof, non-magnetic

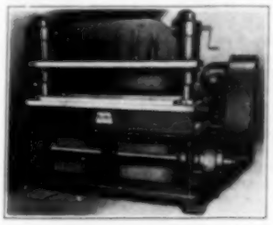
U.S. ROYALITE
TOUGH PLASTIC PRODUCTS

UNITED STATES RUBBER COMPANY
3638 North Pulaski Road, Chicago 39, Illinois

If you write maker identify as IEN - 11554

PRESS . . Motor driven machine rates 30 ton, 10 by 60¾ in. ram

Source: DIAMOND MACHINE TOOL CO.
3425 E. Olympic Blvd., Los Angeles 23, Calif.



Shut height as specified

Model 3060 Multi-Max is a new size in the company's line of double eccentric draw down presses, previously described IEN-932-50. The new machine will make 80 strokes per min. with control operating electrically to a four-point clutch.

Bed dimensions are 15½ by 61¾ inches. Floor space measures 23 by 103 inches. Maximum shut die height is standard at 24 inches. Weight is 5,400 pounds.

If you write maker identify as IEN - 11555

GRINDING . . Portable electric tool for mounted wheels, to 36,000 rpm.

Source: SKIL CORP.
5039 Elston Ave., Chicago 30, Ill.

$45 to $52.50

Model 146 for operation at 20,000 rpm. takes mounted wheels measuring 1¾ in. or less in diameter and Model 148 to operate at 36,000 rpm. takes 1-in. or smaller mounted wheels in two new additions to the company's line of portable electric tools. Both designs are fitted with ⅛ and ¼-in. collet chucks and weigh 2 pounds. The motors are universal design for operation on 110 volts. A motor for 220 volts can be specified.

If you write maker identify as IEN - 11556

CLEANING . . Vacuum sweeper picks up, grinds, blows out leaf dust

Source: ATWATER-STRONG CO.
852 Strong Ave., Atwater, Ohio

Mulch-Vac is a new vacuum type sweeping machine to pick up wet or dry leaves by suction, cut them into a fine mulch and blow this mulch back to the ground or collect it in a bag. Drive is by a 6-hp. gasoline engine, in one size, to clear a path 3 ft. in width. A larger 25-hp. tractor or truck drawn unit clears a 6½-ft. path.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11557

Over Half of America's Top Companies Use "Speed Sweep"

Write for stylet, sizes and prices.

MILWAUKEE DUSTLESS BRUSH CO.
MILWAUKEE 3, WISCONSIN

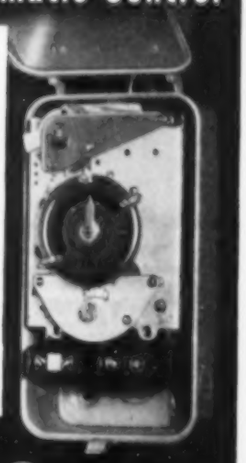
If you write maker identify as IEN - 11558

Save Valuable Manpower With Automatic Control

T-27 TIME SWITCH

- Adaptable to nearly every time-control job.
- Cuts manpower costs and gives increased efficiency.
- With astronomic dial it follows changing dusk-dawn schedules. An omitting device enables the switch to skip certain days.

Contact your nearest G-E sales office. General Electric, Schenectady, New York. 60-135



GENERAL ELECTRIC

If you write maker identify as IEN - 11559

All New

TAYLOR 6" DIAL

shows temperature, pressure or load at a glance!

For Temperature, mercury, gas, organic liquid (Monolex) or vapor actuated systems to fit nearly every type of application.

For Pressure, range spans from 12 psi to 20,000 psi are available using Bourdon springs or C springs of appropriate metals for required service.

For Load, standard tension and compression load elements are incorporated to use a new mercury Bourdon spring.

New movement design eliminates linkage errors, means more dependable accuracy throughout the range span.

Fume and moisture proof case may be face or flush mounted, panel or field.

6" Dial with bold numerals and graduations is easy to read.

Electric alarm mechanisms, easily and quickly adjusted, available optionally.

Ask your Taylor Field Engineer, or write for Bulletin 98214. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

If you write maker identify as IEN - 11560

Don't Handcuff That Engine!

STOP Costly Cylinder Wear with the **UNIVERSAL TOP OILER**

- Reduces Valve and Ring Failures
- Lowers Fuel Octane Requirements
- Reduces Oil and Gas Consumption
- Frees Sticking Valves
- Increases Payload Power

The Universal Top Oiler assures constant, uniform top cylinder lubrication on all types of internal combustion engines by metering vaporized top oil through the intake manifold. When used with an approved upper-cylinder lubricant, it neutralizes corrosive acids, stops carbon and gum formation, prevents dryness in the hottest, busiest part of the engine. Easy to install. List price: $8.95.

Provides maximum benefit when used continuously with Universal Top-Oil. Write for full details.

Gentlemen:
Please send complete information on the UNIVERSAL TOP OILER and the new Universal Top-Oil.

Name _____

Address _____

City _____

UNIVERSAL LUBRICATING SYSTEMS, INC.
785 ALLEGHENY AVENUE • OAKMONT, PA.

If you write maker identify as IEN - 11561

"Easiest fuse to renew I ever used. It's G-E"

"Only three pieces to handle—plus the link—when I renew blown links in this new General Electric time-delay fuse. It's a well-made, sturdy fuse, too. I like the ribs on the cap—they give a better grip than knurling. You can tell at a glance which end comes off."

You'll like these other features of G-E fuses, too

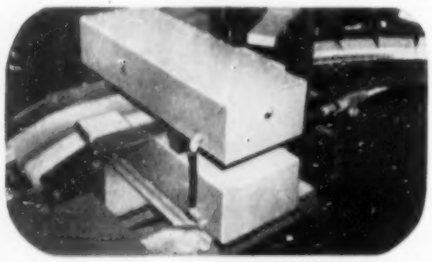
1. All contact surfaces on renewable fuses are silver-plated to eliminate heat caused by oxidation.
2. Newly designed links give accurate and consistent time-delay.
3. The simple three-piece construction applies to ferrule type fuses, too. This fuse has a patented hinged contact plate—no washers to drop.

For complete data, address Section D54-1042, Construction Materials Division, General Electric Company, Bridgeport 2, Conn.

You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as IEN - 11562



NOW GIVE YOUR PRODUCT

This 4-Way Protection from Stray Metal

1. **100% inspection**—RCA Metal Detector finds stray metal that is difficult or impossible to find by other methods. Can be set up to inspect every piece, every batch, every cubic inch of your product at speeds up to 1000 feet per minute.
2. **Detection of all metals**—RCA Metal Detector finds stray metal of *all kinds*—magnetic or non-magnetic. It ferrets out metal no matter how deeply imbedded—detects tramp metal as small as 0.039 in diameter.
3. **Inspection at any stage of manufacture**—RCA Metal Detector inspects raw materials, semi-finished products, or finished products—packaged and ready for shipment. Rejects contaminated items automatically or signals for manual rejection.
4. **Simple installation, low-cost maintenance**—RCA Metal Detector, in most cases, goes in without conveyor-line shutdown. Complete maintenance is available through nation-wide RCA Service Company.

RCA Metal Detector helps protect Plastics, Drugs, Rubber Goods, Food, Tobacco, Chemical Products, and Ore and Limestone Machinery for:

Bakelite Company	The American Tobacco Co.
National Automotive Fibres, Inc.	General Mills, Inc.
Vick Chemical Co.	The Sherwin-Williams Co.
Parke, Davis & Co.	Monsanto Chemical Co.
Goodyear Synthetic Rubber Co.	Aluminum Company of America
The Firestone Tire & Rubber Co.	, and many others.

RADIO CORPORATION of AMERICA
INDUSTRIAL EQUIPMENT CAMDEN, N.J.

Don't put off this important protection!
MAIL COUPON NOW

Please send me information on the RCA Metal Detector.

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State____

Have an engineer call on me.

NEW LITERATURE—Continued

STAMPINGS . . Description on contract service to make special stamped wrenches, phenolic stampings, special nameplates. Bulletin 161, 4 pages. Federal Tool & Mfg. Co., 3602 Alabama Ave., Minneapolis 16, Minn. **IEN-01117**

STAMPINGS . . Facilities for short-run production with a minimum of tool cost in metals and non-metallic materials. Bulletin 718, "Stampings in Small Lots", 4 pages. HPL Mfg. Co., 15175 Miles Ave., Cleveland 28, Ohio **IEN-01118**

STORING . . "Rotabin" rotary shelving units; suggestions on their application alone and with rectangular shelving. Catalog 110, "Economical Shelf Storage", 16 pages. Frick-Gallagher, 852 Industrial Ave., Wellston, Ohio. **IEN-01119**

STRAINERS . . Removable-basket units for 3 to 24-in. pipe; drawings and dimensions on 125 and 250-lb. ratings, materials. Bulletin W-6, 2 pages. Golden-Anderson Valve Specialty Co., 2079 Keenan Bldg., Pittsburgh 22, Pa. **IEN-01120**

STRAPPING . . Round steel strapping; recommendations by package size, equipment with notes on applications, suggestions on unit loads. "Blue Book", 24 pages. Gerrard Steel Strapping, 2927 W. 47th St., Chicago 32, Ill. **IEN-01121**

SWITCHES . . Snap-action limit switches for machine application, also actuating, general-purpose, reset units; ratings, dimensions, technical data. Catalog 82, 24 pages. Micro Switch, 30 E. Spring St., Freeport, Ill. **IEN-01122**

TESTING . . Ten-port manifold to evacuate and fill small containers such as sealed relays; operation, leak testing. "Type SE-50", 2 pages. Distillation Products Industries, 761 Ridge Rd., W. Rochester 3, N. Y. **IEN-01123**

TESTING . . Custom-built equipment from giant electric meters and hydraulic gages to special switches, other meter examples. Bulletin, 12 sheets. Dittmore & Freimuth Co., 2515-19 E. Norwich Ave., Cudahy, Wis. **IEN-01124**

TESTING . . Instruments such as spectrometers, gas analyzers, potentiometers, pyrometers, vacuum gages, transducers; data summaries. Data Book 15-14, 96 pages. Brown Instruments, 4456 Wayne Ave., Philadelphia 44, Pa. **IEN-01125**

TESTING . . Instruments, chemicals and research services for radio-isotope work; data summaries, accessories. Condensed Catalog, 12 pages. Nuclear Instrument & Chemical Corp., 229 W. Erie St., Chicago 10, Ill. **IEN-01126**

TESTING . . Variable-speed test stands for rotating equipment, ¼ to 70 hp., speeds to 15,000 rpm.; notes on drive. Bulletin F-1749, 8 pages. U. S. Electrical Motors Inc., 202 E. Slauson, Los Angeles 54, Calif. **IEN-01127**

THERMOMETERS . . Dial indicating and recording units, also recording pressure gages; models, standard models, bulbs, mounting accessories. Catalog G-158, 8 pages. Electric Auto-Lite Co., Mulberry & Champlain, Toledo 1, Ohio **IEN-01128**

THERMOSTATS . . Local-mount immersion-type units to 425 deg. F.; construction, switching action, dimensions. Bulletins 2-1, 2-3, 2-4, 2 pages each. United Electric Controls Co., 83-87 School St., Watertown 72, Mass. **IEN-01129**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN - 11564

A Paid News Advertisement by Byron Jackson Co.

BJ SUBETTE PUMP . . .

a smaller version of the highly successful BJ Submersible Deepwell Pump

For over 25 years BJ Submersible Deepwell Pumps have proven themselves in thousands of installations. Now the Subette extends the BJ Submersible application to wells as small as 6" ID. An ideal pump for primary water supply or stand-by use in industrial plants.

Since sealed pump and close-coupled electric motor operate submerged in the well, no expensive pump house or installation is required . . . crooked or extra deep wells are no problem . . . underground location is safe from sabotage . . . no motor flood-out during emergency conditions of fire or flood . . . operation is silent, invisible . . . and there is no water contamination from dirt, oil or foreign matter.

The BJ Subette provides capacities to 130 gpm and heads to 765 feet.

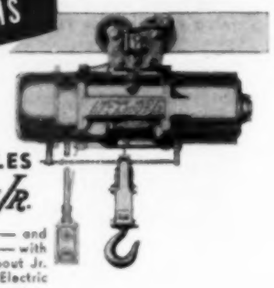
Larger BJ Submersible models are also available for greater capacities.

Byron Jackson Co.
PUMP DIVISION
P. O. Box 2017, Terminal Annex
Los Angeles 54, California

OFFICES IN PRINCIPAL CITIES

If you write maker identify as IEN - 11565

SOLVES MANPOWER PROBLEMS



SHEPARD NILES
LIFT ABOUT Jr.

One man replaces many — and moves more goods faster — with the Shepard Niles Lift About Jr. This lightweight, low cost Electric Hoist frees valuable floor space, puts waste ceiling area to work.

Loads of 500 or 1,000 lbs. are handled easily by an older man, woman or youth.

Learn how the Lift About Jr. fits into your production picture by calling in the Shepard Niles representative. He'll make sure you get the right capacity and controls for your handling job. Write today for Bulletin 127 or 171 and ask to have a representative stop by.

Specialists in loads through-the-air since 1903.

SHEPARD NILES
CRANE AND HOIST CORPORATION
1010 SCHUYLER AVE., MONTOUR FALLS, N. Y.

If you write maker identify as IEN - 11566

"magic hand"

THE NEW IDEA IN VACUUM BLANKET PHOTOCOPY PRINTERS

A rubber vacuum blanket of new design suspended from a light, internally counterbalanced lid is the feature of the Peerless "Magic Hand" Printer.

Advantages are:

EASY MULTI-PRINT OPERATION
CLOSE, QUICK CONTACT
LESS OPERATOR FATIGUE
UNIFORM ILLUMINATION

PEERLESS

Write today for free leaflet MH-1

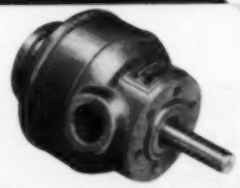
PEERLESS PHOTO PRODUCTS, INC., SHOREHAM, L. I., N. Y.

Distributors in: Los Angeles, Chicago, Cleveland, Detroit, Pittsburgh, Buffalo, Tulsa, Dallas, Houston, Salt Lake City, Atlanta

If you write maker identify as IEN - 11567

"stout heart" of any hydraulic circuit

GEROTOR hydraulic pumps



3 types, 11 sizes, for continuous pressures up to 1000 p.s.i., . . . in some sizes, up to 1200 p.s.i. continuous, 1500 intermittent. Deliveries from .4 g.p.m. at 1800 r.p.m. to 40 at 1200.

GEROTOR MAY CORPORATION, BOX 86, BALTIMORE 3, MD.

If you write maker identify as IEN - 11568

WICKWIRE ROPE SLINGS

tough...strong...extra flexible

Wickwire Rope Slings are offered in both braided and conventional types . . . are designed to hitch on to heaviest loads with utmost safety, ease of handling and absolute security of attachments. Where extreme flexibility is required, Wickwire Slings of braided design give definite advantages in non-kinking qualities and in their ability to handle materials of all types and shapes without taking a permanent set.

Let us know your requirements. Our engineers will be pleased to analyze your sling problems and recommend the correct solution.

THE COLORADO FUEL AND IRON CORPORATION – Abilene (Tex.) Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
THE CALIFORNIA WIRE CLOTH CORPORATION – Los Angeles Oakland • Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION–Boston • Buffalo • Chattanooga Chicago • Detroit • Emlenton (Pa.) • New York • Philadelphia

WICKWIRE ROPE
CFI PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL AND IRON CORPORATION

If you write maker identify as IEN - 11569

Portable MOISTURE METER

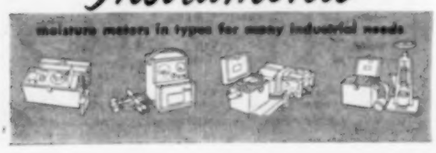
insures product uniformity...cuts costs!

TAG Midget MOISTURE METER

In the manufacture of coated abrasives, too much moisture in the backing material during processing, or too little moisture, can have costly consequences. Non-uniform flexing . . . paper delamination . . . mold . . . or even bonding failures. So this leading manufacturer checks moisture content every step of the way with simple, accurate TAG moisture meters. They state, "portable TAG meters have enabled us to attain a more uniform product, and eliminate product losses due to improper moisture content."

In many other products and processes, too, incorrect moisture content is costing real money. Why not consult with TAG on your moisture problems now. Or, ask for literature on the various types of moisture meters available . . . WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, N. J., *manufacturers of Weston and TAG instruments.*

WESTON Instruments



If you write maker identify as IEN - 11571

TESTING . . Comparator projector magnifies film to check surface finish

Source: BRUSH DEVELOPMENT CO.
3403-07 Perkins Ave., Cleveland 14, Ohio

Model BL-122 is new design of the Faxfilm surface comparator, previously described IEN-3407-47. It projects two enlarged images of surface finishes side by side on a screen for comparative examination. The images are carried on pieces of plastic film that have been pressed upon the test surfaces after being softened by a special liquid. The softened faces take the surface images in minute detail and the instrument magnifies them 30X.

If you write maker identify as IEN - 11572

PUMP . . Self-priming centrifugal, motor driven, portable, rates 250 gpm.

Source: McCULLOCH MOTORS CORP.
6103 W. Century Blvd., Los Angeles 45, Calif.

Weight is 57 lb. and delivery pressure is to 100 lb. for this new centrifugal fire fighting pump, Model 7-FP. It is particularly suited for stand-by and emergency service in isolated locations. It can be employed to deliver a solid stream of water, fog, spray or foam.

The engine is two-cycle design and develops 7 hp. at 4,500 rpm. Lubrication is by oil contained in the gasoline. The crankshaft carries the pump rotor.

If you write maker identify as IEN - 11573

EXTINGUISHING . . Sprinkler head with solid chemical fusible element

Source: GLOBE AUTOMATIC SPRINKLER CO.
250 Park Ave., Room 924, New York 17, N. Y.

Element liquifies

Large numbers of this sprinkler head have been put into service over the past two years and the unit is now being announced as available for general use. It is equipped with ½-in. pipe thread connection and is characterized by its use of a solid chemical as its fusible element.

This chemical can be selected to melt and release the water held back by the head at any of six temperatures between 135 and 415 deg. F. Corrosion resistant materials are used.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11574

Used in this typical application for sensing temperature of hydraulic oil.

precision-made to your needs . . . BENDIX-FRIEZ thermistors

Maybe your need for these temperature responsive resistors can be satisfied by a type we carry in stock. Maybe you require a specially-developed type. In either case, you can depend on Bendix-Friez to provide precision-made thermistors to serve you with maximum efficiency. High standards of quality control in manufacture make Bendix-Friez Thermistors pre-eminent in their field—assure you of utmost satisfaction.

STANDARD TYPES FOR IMMEDIATE DELIVERY

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x .75	45.0 ohms	86 ohms	194 ohms
.040 x 1.5	12,250 ohms	26,200 ohms	65,340 ohms
.018 x 1.5	35,000 ohms	82,290 ohms	229,600 ohms

Write for details.

FRIEZ INSTRUMENT DIVISION of Bendix aviation corporation
1428 Taylor Avenue, BALTIMORE 4, MARYLAND
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

If you write maker identify as IEN - 11575

TRANSMITS AIR PRESSURE THROUGH ROTATING PARTS

Where it is necessary to transmit line pressure or partial vacuum from a rotating member to a fixed unit, you will find **Schrader Rotating Pressure Joints** the answer. These compact, air-tight units handle a variety of gases, liquids, as well as compressed air. Free rotating action on one side is possible while the line connections on the other side are in a fixed position. Ball bearing construction assures a minimum of rotating friction. They measure 2½" in overall length. Available with ¼" and ⅜" N.P.T. threads.

Write today for your copy of the Schrader catalog, which contains full description.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
458 Vanderbilt Ave., Dept. D-82, Brooklyn 17, N. Y.

If you write maker identify as IEN - 11576

The M·S·A-LAMB AIR-MOVER

A practical, portable ventilating device, the Air-Mover uses only compressed air or steam to move rapidly large volumes of air—no auxiliary motors, turbines or fans. No up-keep because there are no moving parts. Available in three models—3 in., 6 in. and 10 in. size. Largest size moves as much as 5,160 cu. ft. of air per minute. Ideal unit for thousands of applications where rapid, safe and easy elimination of dust, gas-laden or heated atmosphere is required. Bulletin No. DP-5.

MSA SAFETY EQUIPMENT HEADQUARTERS
When you have a safety problem, M.S.A. is at your service. Our job is to help you.

MINE SAFETY APPLIANCES CO.
Braddock, Thomas and Meade Sts.
Pittsburgh 8, Pa.
68 Branch Offices in the United States

If you write maker identify as IEN - 11577

Improved Method Centrifugal SPRAY DRYER and CONCENTRATOR*

CONTRACT DRYING
We invite inquiries for Contract Drying in our fully equipped, Stainless Steel Plant in Chicago. Shipments can be made direct to our Railroad Switch Track or Truck Docks.

THE DRYING AND CONCENTRATING COMPANY DRYER

Improved method for **DEHYDRATING**

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

This complete spray drying plant employs a unique centrifugal-type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooler and Sanitary Pumps with variable speed drives for handling the liquid material and controlling the moisture.

***CONCENTRATOR AVAILABLE SEPARATELY**

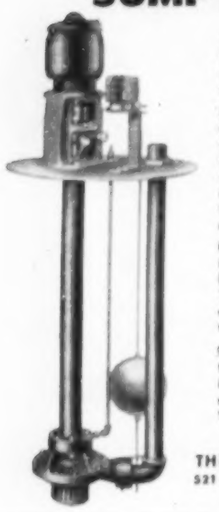
The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining neutral flavors and vitamins.

3639

DRYING and CONCENTRATING CO.
[illegible] SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

If you write maker identify as IEN-11578

DEMING
SUMP PUMPS



● These new Deming Sump Pumps are designed for trouble-free service, easy maintenance and long life.

Features include heavy-duty construction, close tolerance dowel-ring fits from motor to impeller, positive alignment of all rotating and guide bearing parts, column connections flanged and bolted for easy maintenance.

Pumps can be furnished in cast iron, bronze, Monel and stainless steel. Sizes range from 1 to 10 inch discharge with capacities from 10 to 3000 G.P.M., and heads up to 140 ft.

Complete details, selection tables, and accessories are illustrated and explained in new Bulletin No. 4600-A. Write for a copy.

THE DEMING COMPANY
521 Broadway • Salem, Ohio

If you write maker identify as IEN-11579

JOY WG-9 "Industrial-Air" COMPRESSOR

Saves space—gives you top efficiency—built for heavy duty

★ Full force-feed lubrication of all working parts
★ Replaceable cylinder liners and crosshead guides
★ Small floor area and simple foundation requirements
★ Anti-friction main bearings

15 Sizes—172 to 881 CFM
20 to 150 psi
FREE BULLETIN

For complete details, write for new Bulletin A-43, or...

Consult a Joy Engineer

WAD 10080

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

If you write maker identify as IEN-11580

We're proud to announce . . .
Wiping Cloths at NET WEIGHT

The burlap or cardboard around a bale of wiping cloths can amount to as much as 10% of the weight . . . and you can't wipe with it! So, why pay for it? We've supplied the armed forces millions of pounds by *net weight*, and now we're able to extend to you the same great advantage. And what's more, our prices are not advancing.

READYWIPE GREASE KING WIPERS
16c lb. NET WEIGHT
SAVE ON FREIGHT

Due to freight minimums, 200 pounds can be shipped to you alcost as cheaply as 100 pounds. Mail coupon today — your satisfaction is guaranteed; return wipers for refund if you are dissatisfied.

CHARLES BELSKY & SONS, INC.
5326 MAIN ST. • HOLYOKE, MASSACHUSETTS

Please ship at once ..... 100 / 200 pounds of Readywipe GREASE KING wipers. I understand unused quantity may be returned for refund if I am not satisfied.

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FIRM _____

CITY _____ STATE _____

NEW LITERATURE—*Concluded*

TRUCKS . . How they are used by public utilities to handle, store, warehouse operating supplies and equipment, shown by pictures. "A Study in Progress". 8 pages. Hyster Co., 2916 N. E. Clackamas St., Portland 8, Ore. **IEN-01130**

TRUCKS . . Operator-walk electric lift trucks and tractors; data summaries on pallet, platform, fork models. Catalog 34, 20 pages. Lewis-Shepard Products Inc., 190 Walnut St., Dept. R-1, Watertown 72, Mass. **IEN-01131**

TRUCKS . . Engine-driven power lift trucks; illustrated description on lift, drive, travel mechanisms from a handling standpoint. Bulletin DMF-2, 10 pages. Towmotor Corp., 1224-28 E. 152nd St., Cleveland 10, Ohio **IEN-01132**

TUBES . . Flexible metal hose and fittings for air, water, oil, gas, steam, tar, vacuum; sectional drawings, sizes, installation suggestions. Catalog CMH-130, 36 pages. Flexonics Corp., 1333 S. Third Ave., Maywood, Ill. **IEN-01133**

VALVES . . Needle type, ¼ to ½ in., pressure 100 to 3,000 lb., one with bellows seal; drawings, dimensions, materials. Looseleaf catalog, "Dimensional Data Sheets", 18 sheets. Hoke Inc., 203 S. Dean St., Englewood, N. J. **IEN-01134**

VALVES . . Type 615 regulating valves for gas pressure to 1,000 lb.; details on control adaptations along with ratings, operating views. Bulletin 1086, 16 pages. Rockwell Mfg. Co., 402 N. Lexington Ave., Pittsburgh 8, Pa. **IEN-01135**

VALVES . . Pneumatic operating valves; details on 9 control assemblies based on 3 body designs and 5 pipe sizes; schematic connections. "Diversatility", 8 pages. Valvair Corp., 452-56 Morgan Ave., Akron 11, Ohio. **IEN-01136**

VENTILATING . . Centrifugal blowers, belt and direct-driven, 1/6 to 7½ hp.; capacity and selection data spread out to see at a glance. Bulletin VS-52-1, 6 pages. Bayley Blower Co., 6610 W. Burnham St., Milwaukee 14, Wis. **IEN-01137**

VENTILATING . . Small compact "Axivane" fans to cool electronic equipment; list of standard models for 27-volt dc. and 400-cycle ac. Bulletin J-612, 4 pages. Joy Mfg. Co., 452 Henry W. Oliver Bldg., Pittsburgh 22, Pa. **IEN-01138**

WELDING . . Pneumatic power unit for a rocker-arm spot-welding machine; captioned assembly view, summary on three available models. "Weld-Air-Matic", 4 pages. Robert W. Hoffman Co., 32-36 S. Clinton St., Chicago 6, Ill. **IEN-01139**

WIRE . . Electric wire and cable, some with asbestos insulation, for applications from aircraft to waffle irons; sizes, ratings. Catalog, 48 pages. Rhode Island Insulated Wire Co., 48-52 Burnham Ave., Cranston, R. I. **IEN-01140**

WIRE . . Electrical wire and cable; descriptions and ratings on some 500 portable cords, power cable, telephone wire, others. Catalog 52, 186 pages. United States Rubber Co., 1230 Sixth Ave., New York 20, N. Y. **IEN-01141**

X-RAY . . Equipment for industrial use; concise reviews of seven available types to inspect parts and sheet. Bulletin B-4787, 4 pages. Westinghouse Electric Corp., 511 Wood St., Dept. IEN, Room 1110, Pittsburgh 30, Pa. **IEN-01142**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11581

For SPECIAL BATTERY CHARGERS ••HERTNER Is Your Best Bet!

More and more, day after day, Hertner Electric is being called on to design and build special equipment for special battery-charging jobs . . . for electric trucks, motorized hand trucks, mine locomotives, railroads, telephone exchanges . . . wherever battery-charging equipment is required.

Illustrated here is a special-built, 4-circuit, unitized switchboard for charging four separate batteries simultaneously. Of these four batteries any can be one of six different types. This man-hour saver and space-saving charger is equipped with a motor generator with a capacity for four additional circuits, ready for future expansion.

Our staff of experienced engineers and modern production facilities are available to produce custom-built motors and generators to meet your exact requirements. *Standard model Hertner battery chargers are available for immediate shipment.* For complete information consult your electric truck or Hertner representative, or write direct.

THE HERTNER ELECTRIC COMPANY
13690 ELMWOOD AVE. • CLEVELAND 11, OHIO
A General Precision Equipment Corporation Subsidiary
MOTORS • MOTOR-GENERATORS • GENERATOR SETS
Representatives in Principal Cities

If you write maker identify as IEN-11582

LULL side-loading TRAVELOADER . . . gives you Straight-Line MATERIALS HANDLING

One man LOADS . . . CARRIES . . . UNLOADS . . . STACKS . . . *without* BACKING AND TURNING!

Straight-line production-methods call for straight-line materials handling if maximum benefits are to be gained. And that's one important way in which Lull Traveloader can step up the efficiency of your operations. One side-loading Traveloader using a straight-line system, can do the work of 2 or 3 conventional machines . . . do it faster and in half the space!

This Bulletin gives you complete information on all the ways in which Lull Traveloader can save you manhours and money. You can't afford to be without this information. Write for your copy . . . TODAY!

LULL MANUFACTURING CO.
362 West 90th Street • Minneapolis 20, Minn.
EXPORT OFFICE: 105 West Fourth St., Cincinnati 2, Ohio
Cable Address: "Repint"

If you write maker identify as IEN-11583

Announcing the NEW RIGID Spiral Reamer

NOW fast easy reaming with the new RIGID 2-S Spiral

★ Reams pipe fast, easily and cleanly.
★ Makes quick work of enlarging conduit box outlets—cuts holes in sheet metal, smoothly, no chatter. Reams soil pipe.
★ Special design blades feed into metal at lightest pressure, cut it like wax.
★ Typical RIGID tested design, fine craftsmanship and materials—extra long service for your money.
★ Buy the new 2-S spiral at your Supply House.

Reamer unit sold separately—fits your RIGID OOR threader handle

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIGID Work-Saver Pipe Tools

If you write maker identify as IEN - 11585

DO THESE NEW

Reuland motors

FIT INTO YOUR PICTURE?

(cut away view)

FLUID-SHAFT MOTOR — Provides smooth acceleration of heavy loads. More compact than separate motor and fluid coupling. *Perfect alignment!* Thousands in use on cranes, mixers, centrifugals, etc.

FLUID - SHAFT MOTOREDUCER — This Fluid-Shaft motor and gear reducer combination converts the motor's conventional high speed into a slow speed, smooth starting, compact unit. Ideal for car pullers, conveyers, dryers, etc.

MAGNETIC BRAKE — The only brake that permits the use of TWO output shafts per motor. *When desired the motor shaft can be extended right through!* Only 6 major parts...no levers or linkage ... self adjusting ... half usual length!

Write for new engineering folder on these and other *exclusive* Reuland Products... *industrial units designed to fill the needs of the nation's leading equipment manufacturers!*

REULAND
ELECTRIC COMPANY
ALHAMBRA, CALIF.
Representatives in all principal cities
FIRST IN QUALITY . . . FIRST IN DESIGN

If you write maker identify as IEN - 11586

it's OK ...let'er go!

cut costs on your toughest jobs with OK SHEAR BLADES and SLITTER KNIVES

Heat Treating does it. Gives them maximum toughness and keen edge holding qualities. You get longer runs between re-grindings.

OK Battle Axe Shear Blades for shearing up to and including ¼" mild steel or equivalent.

OK Dura-Chrome Shear Blades for shearing hot or cold plate steel up to 1¼" or equivalent.

OK Standard Shear Blades for any type shearing when only short runs or little shearing is done; also for heavy plate shearing.

OK Gang Slitters for slitting steel, precision ground to ± .0002 tolerances.

OK Rotary Shears and Cutters for trimming sheet steel and light plates.

Write today giving quantity and sizes.

GO WITH OHIO GREEN

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

If you write maker identify as IEN - 11588

TUBE FITTING . . Jacketed tee for heat exchange, to 1 in. outside

Source: CRAWFORD FITTING CO.
882-86 E. 140th St., Cleveland 10, Ohio

To heat or cool

A heating or cooling medium can be circulated around an internal tube line by application of this new Heat Exchanger Tee in the company's Swagelok tube fitting line. The unit is available in aluminum, brass, Monel Metal, steel and stainless steel. It is made in sizes to 1 in. in outside diameter of the Jacketing tube. This tube connects into the fitting body to the side outlet or inlet and surrounds the inner tube which is secured centrally through the body.

If you write maker identify as IEN - 11589

WELDING . . Electronic control to regulate spotwelding action

Source: WELTRONIC CO.
19456 W. 8-Mile Road, Detroit 19, Mich.

Slope Control designates the action of new synchronous precision electronic equipment with which initial, maximum and final heat can be set as well as the rate of increase and rate of descent. The equipment is available as a self-contained accessory unit as shown in the illustration. It also can be built into spot welding equipment. Plug-in connectors assist in replacement. NEMA 7B and 9B sequence timers are interchangeable.

If you write maker identify as IEN - 11590

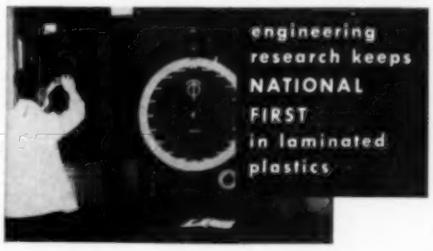
CLEANING . . Rotary brush machine for floors, also scrubs, sands, waxes

Source: AMERICAN FLOOR SURFACING MACHINE CO.
516-20 S. St. Clair St., Toledo 3, Ohio

Model AIM-13 is a new addition to the company's line of rotary brush machines, previously described IEN-1441-50. It provides a 13-brush spread and is driven by a General Electric motor operating at 1,750 rpm. on 110-volt 60-cycle ac. The motor is connected to the brush by a double reduction helical gear assembly so the brush operates at 172 rpm. A bumper guard surrounds the machine housing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11591



"Specs" must

There's no equivocation with NEMA, Army, Navy or customers' specifications. "Specs" must be met. That's why National has the finest equipment for testing flexural, bonding, tensile and compressive strengths of all laminated plastics it produces. Such equipment is invaluable in the creation of new, better materials.

National Laminated Plastics
nationally known—nationally accepted

NATIONAL VULCANIZED FIBRE — A tough, horn-like material with high dielectric strength. Excellent machinability. Sheets, Rods, Tubes, Special Shapes.

PHENOLITE — Good electrical insulating material with great mechanical strength; moisture resistant. Sheets, Rods, Tubes, Special Shapes.

NATIONAL VULCANIZED FIBRE CO.
Wilmington, Delaware — Offices in Principal Cities — Since 1873

If you write maker identify as IEN - 11592

If you write maker identify as IEN - 11593

EASY LIFT · EASY PULL · AT ANY ANGLE

Convince yourself! Try a 'Tugit' Hoist for lifting or pulling loads at an angle in close quarters. It's fast, efficient, easy to handle. Easy to use.

'Tugit' is compact, light, portable — fits any tool box. It's used for everything — like closing freight-car doors, stretching fences, and installing machinery. It can do hundreds of tough jobs for you. One and two-ton sizes available. Write for Bulletin No. 388.

'TUGIT'® HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" Cranes, "Budgit" and "Load Lifter" Hoists and other lifting specialties. Makers of "Ashcroft" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, "American" Industrial Instruments.

If you write maker identify as IEN - 11594

If you write maker identify as IEN - 11595

Directs Light Exactly as Needed as Easily as Pointing your Finger

FOSTORIA LOCALITES

for Machine Tools, Assembly and Inspection Benches

The Finest of All Localized Lighting Units

MODEL 099-PX-412

Overall length 35½". Three instantly adjustable joints. Reflector accommodates 100 watt or any A-19 or A-21 medium screw base lamp.

$13.28 EACH in pkg. of 4 Single Unit $16.60 ea.

- **All Wiring Fully Enclosed** — completely protected from wear or insulation damage from oils and fumes.
- **Adjusta-tension Joints** — tension easily adjusted for freedom of arm movement to suit worker and job.
- **Universal Base** — mounts on outlet box or directly on machine or bench. Toggle switch included.
- **Baked Enamel Finish** — exterior, Vista Green — Reflector interior, high temperature White.

LOCALITE fostoria for Light Of the Job

WRITE FOR COMPLETE CATALOG of Localite models with various type reflectors, arms and bases for every industrial use.

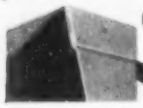
THE FOSTORIA PRESSED STEEL CORPORATION FOSTORIA, OHIO

Localites are available through electrical wholesalers everywhere.

If you write maker identify as IEN - 11596

NEW! STEEL-PRIDE LOCKERS

WITH EXCLUSIVE JET-LOK CONSTRUCTION MAKE ALL OTHERS OLD-FASHIONED!



Exclusive Jet-Lok double-U construction cuts assembly time sharply, increases rigidity, virtually assures pilfer protection.

Vertical members simply slide in place, interlocking throughout their entire length. Number of bolts reduced by half.

Design of legs, not bolts, plans, support weight. Extension brackets provide adjustable leveling on uneven floors.

ENGINEERED TO ASSEMBLE IN MINUTES — SAVES TIME — SAVES COSTLY MAN HOURS!

CUTS ASSEMBLY TIME APPROXIMATELY IN HALF

Component sections slide together swiftly, easily. Has only 32 bolts (about half the number found in conventional lockers). Complete assembly time—approximately one half the time required for other lockers.

Exclusive Jet-Lok U-type construction provides maximum strength along entire length of various components. Lockers will not twist or lose original shape. No "bellying" is possible when installed in sections. *Built to 5ω pollard are other lockers on the market today!*

PRACTICALLY PILFER-PROOF — Jet-Lok vertical joints at front, back and sides lock securely—permanently—make pilfering practically impossible. Fully meets Government regulations!

UNIQUE LEG CONSTRUCTION — Legs specially designed to support weight of locker. Adjustable leg extension brackets permit easy leveling on uneven floors.

ESPECIALLY VALUABLE AS TIME-LABOR SAVER WHEN SETTING UP MULTI-UNIT INSTALLATIONS!

steel-pride — STEEL SERVICE MANUFACTURING CO., STEUBENVILLE, OHIO

ATTENTION PURCHASING AGENTS

Send this coupon today for all the facts about the new, revolutionary Steel-Pride Locker.

Please send me your free catalog describing STEEL-PRIDE Lockers.

NAME .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

If you write maker identify as IEN - 11598

LAPPING . . Diamond abrasive particles carried in synthetic vehicle

Source: ELGIN NATIONAL WATCH CO.
105-9 National St., Elgin, Ill.

Color identifies grade

New packaging in a plastic sealed cartridge is announced by the company for its diamond lapping compound, previously described IEN-5738-49. The cartridge applies in an applicator gun as shown in the illustration and is available in 5 and 18-gm. sizes. There is no danger of glass chips getting into the compound. The plastic cartridge will not break or crack if it is dropped.

The diamond particles are accurately graded for size and are carried in the synthetic vehicle which is resistant to caking or drying out. The compound remains stable in a temperature range to 150 deg. F. to permit use in machine lapping.

If you write maker identify as IEN - 11599

VALVE . . Low pressure check design prevents reverse flow in blower line

Source: TECHNO CO.
26-30 W. 12th St., Erie, Pa.

About $111 to $644

The body of this new Technocheck valve is mounted between standard 125-lb. pipe line flanges and is fitted with an elliptical reinforced pliable material, pliable flapper. The either natural or synthetic rubber or plastic, is reinforced by metal plates and is secured to a post mounted at right angles to the direction of flow. As long as flow is forward the flapper remains centrally folded to present negligible restriction. Immediately upon flow reversal it opens, fills the line and stops air or gas movement. Pressure drop in a 25-lb. air line is about ½ in. of water with flow at 2,000 cfm.

Size range is 4 to 16 in. for pressures to 50 lb. and temperature to 200 deg. F., employing Buna-N in the flapper construction. Silicone can be specified for temperature to 500 deg. F.

If you write maker identify as IEN - 11600

SILICONES . . Booklet on fluid type illustrates its uses from auto polish to damping fluid

Dow Corning Corp.
P. O. Box 592-A, Midland, Mich.

Properties and corresponding applications of the company's 200 Fluid silicone materials are treated in detail by new 32-page Silicone Notebook 2003. These applications include use to damp pointers of instruments, as hydraulic fluids, liquid dielectrics, lubricants, release agents, water repellents, polishing agents, coatings, impregnants. A nomograph chart gives instructions on how to blend the fluids to a desired viscosity.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11601

Not investigate the use of aluminum or magnesium castings on *your* product?

Almost a half-century of experience producing quality Well-Cast light metal castings in sand, semi-permanent and permanent mold-Well-Made Wood and Metal Patterns.

THE WELLMAN BRONZE & ALUMINUM CO.

DEPT. 9, 12800 SHAKER BLVD., CLEVELAND 20, OHIO

If you write maker identify as IEN - 11602

THE ONLY AIR CYLINDER WITH ALL CONTROLS *Built-In*

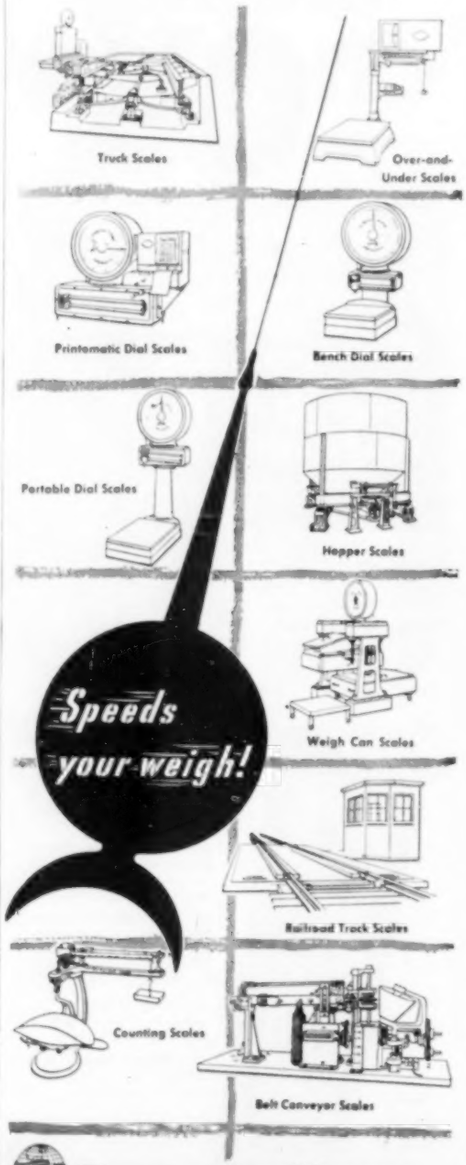
THIS revolutionary air cylinder is a complete power unit in itself. Four-way directional valve, with an operating lever adjustable to work from any angle in any plane, and separate speed controls for advance and retract strokes, are integral with the cylinder itself. This compact "controlled-air-power" unit requires only one air connection which can be flexible hose. Available in 1⅛", 1¾", 2½", 3⅝" and 4½" bores. Any stroke length.

Known as the Bellows Air Motor, this modern version of air cylinder power makes air safer, easier and simpler to use. Helps in a hundred ways to get more production at lower cost.

- *Write today for your free copy of the new 30-page bulletin "Faster, Safer, Better Production". Address The Bellows Co., Dept. IEN 1052, 222 W. Market St., Akron 9, Ohio.*

The Bellows Co.
Akron 9, Ohio

If you write maker identify as IEN - 11603



FAIRBANKS-MORSE,

a name worth remembering

SCALES · DIESEL LOCOMOTIVES AND ENGINES · ELECTRICAL MACHINERY · PUMPS HOME WATER SERVICE EQUIPMENT · RAIL CARS · FARM MACHINERY · MAGNETOS

If you write maker identify as IEN - 11605

TANGLE-PROOF
LOCK WASHERS

You can *depend* on Hobbs spring lock washers to meet all job requirements and government specifications. Available in high carbon steel, stainless steels, silicon and phosphor bronze, and all types of platings.

HOBBS COTTER PINS are available in steel, brass, stainless steel, and monel in extended prong (Loxit) and hammer-lock (HobLok) types. HobLok cotter pins lock themselves when hit with hammer!

Write now for Hobbs lock washer and cotter pin price lists!

HOBBS MANUFACTURING CO.
Fastener Division
40 SALISBURY ST., WORCESTER 5, MASS.

If you write maker identify as IEN - 11606

THEY'RE "ABUSION-PROOF"!

LOW PRICE *Smith* FOOT SWITCH

Gives instant control of frequent stop-and-start operations. Promotes safety and exactness of production.
Frees both hands for the job.

Tested by seven years varied usage in large and small plants. Immediate installation — no soldering or wiring.
Heavy duty tungsten points, bronze spring. $4.95 incl. cord and plug. Special mfrs. price — Foot switch only (less cord and plug) 50 or more $1.98 each.

AERO "SEALED SPARK" COIL

Something NEW in coils for small utility engines. Completely ends coil replacements!

Permanently sealed against moisture, heat, gasoline, oil, icing and dirt, and *guaranteed for life of motor.*

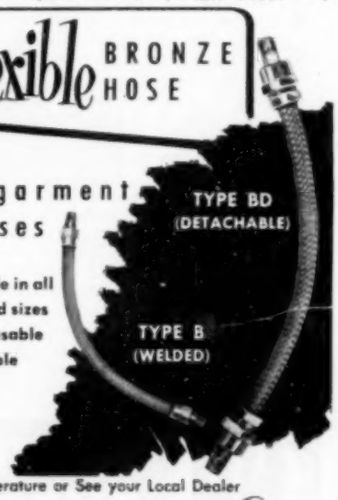
AERO is ideal for use on Briggs & Stratton, Pincor, etc.
$6.85 with hi-tension lead.
Coil alone — $4.25

NATHAN R. SMITH MFG. CO.
105 PASADENA AVE., SOUTH PASADENA, CALIFORNIA

If you write maker identify as IEN - 11607

Flexible BRONZE HOSE

for garment presses



Available in all types and sizes with re-usable detachable fittings

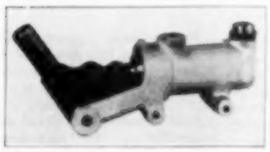
Write For Literature or See your Local Dealer

PACKLESS METAL HOSE INC.
31-40 WINTHROP AVE. • NEW ROCHELLE, N. Y.

If you write maker identify as IEN - 11608

PUMP . . Hand hydraulic design, single acting, pressure to 3,000 pounds

Source: ALTENS FOUNDRY & MACHINE WORKS INC.
224-28 W. Wheeling St., Dept. 1500, Lancaster, Ohio



List is $25

Intake is at the outboard end of this new hand hydraulic pump through a spring-backed ball check valve. Outlet is through the port between the inlet and the operating end. The piston is fitted with a second ball check valve to transfer fluid from its front to its rear face on the forward stroke and to deliver this fluid on the return stroke.

On each return new fluid is drawn in through the inlet to fill the cylinder. Stroke length is 1¼ inches. Distance between the inlet and outlet ports is about 3 inches. The pump body is made of aluminum. The piston and working parts are stainless steel. Two sizes rate 1.5 and 0.75 cu. in. per stroke. Corresponding pressures are to 1,500 and to 3,000 pounds.

If you write maker identify as IEN - 11609

BELLOWS . . Stainless steel, pressure to 3,600 lb. per square inch

Source: CLIFFORD MFG. CO.
150-54 Grove St., Waltham 54, Mass.

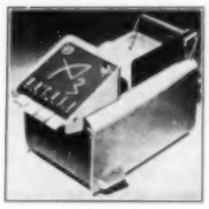
Please note our error

We were in error when we described the company's new stainless steel bellows as rolled construction in IEN-8397-52. Actually they are made of seamless tube by hydraulically forming the convolutions. The new units are particularly suited for high pressure duty and have nominal outside diameter of $\frac{5}{16}$ inch.

If you write maker identify as IEN - 11610

DISPENSING . . Motor driven unit strips, delivers self-adhesive labels

Source: ARCHER LABEL CO.
97-A W. Union St., Pasadena, Calif.



Thorleif Pettersen design

Self-adhesive labels backed by glassine tape on the adhesive side are assembled in rolls and multiple rows in this new motor driven dispenser. The rolls are fed forward simultaneously and the glassine backing is stripped to present as many labels as there are rolls in the machine when the label in the last row to the left has been removed. When the machine is loaded with a single roll it will advance one label as fast as each is taken off. The machine will take labels of standard self-adhesive design or the company's own design in sizes down to $\frac{3}{8}$ in. in diameter. Overall machine dimensions are 7 by 12 by 7½ inches. Weight is 9 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11611

Line-O-Power

STRAIGHT LINE DRIVES

High quality, compact design incorporating Duti-Rated high hardness precision gears assembled in streamlined housings of rugged cast iron.

Accurate high production machine tools assure low original cost. Simplified construction, direct splash lubrication, quality workmanship assure long wear life. Efficiencies of 96% or higher.

Double and triple reduction—capacities 1 to 175 h.p., ratios 5 to 1 up to 238 to 1.

FOOTE BROS. GEAR AND MACHINE CORPORATION
Dept. IEN, 4545 S. Western Ave.
Chicago 9, Illinois

WRITE for BULLETIN LPB

FOOTE BROS.
Better Power Transmission Through Better Gears

If you write maker identify as IEN - 11612

Proper annealing assured by exact timing

● Because the heat treatment of castings requires accurate timing, this Eastern producer installed a Cyclone Flat Wire Belt to carry them through the annealing operation. The regulated speed of the belt (by use of sprocket drive)—and its large open areas—allow the maximum amount of heat to reach all parts of the castings for exactly the right period of time. Just recently the original belt was replaced after several years' operation . . . definite proof that Cyclone belts give long service under rugged conditions.

Cyclone Conveyor Belts are available in three types—Flat Wire, Spiral Woven and Flex-Grid. For information and advice on their installation get in touch with our nearest sales office and write Dept. C-102 for our catalog #4.

U·S·S CYCLONE METAL CONVEYOR BELTS

CYCLONE FENCE DEPT.
AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL COMPANY
WAUKEGAN, ILLINOIS

USS

UNITED STATES STEEL

If you write maker identify as IEN - 11613

It says "STOP" to Solids - "GO" to Fluids

Here is a BETTER Strainer to "police your pipelines"

• **FIRST**—*The Screen,* a high-grade, woven Monel wire basket that catches solids—lets condensate, oil or other fluids flow freely.

• **SECOND**—*Finish.* Cadmium plated inside and out for protection against corrosion.

• **THIRD**—*Easily Cleaned.* Blow-off bushing made for easy removal. Bushing and Screen come out together. Screen automatically aligns on reassembly.

• THOUSANDS IN SERVICE—Sold by over 200 Mill Supply Houses. 6 sizes from ½" to 2" for pressures up to 600 lb. Reasonably priced.

See your supply house or write for Bulletin S-203.

YARNALL-WARING COMPANY
122 Mermaid Ave., PHILADELPHIA 18, PA.

YARWAY STRAINERS

If you write maker identify as IEN - 11614

100 OR 100,000,000
GASKETS • PACKINGS • DIE-CUTS
for EVERY industry

Whatever your needs—100 gaskets or 100,000,000—standard materials or special—you can rely on Fel-Pro to furnish exactly the right item for your particular service. The entire facilities of three modern plants and over 30 years of experience in supplying gaskets, packings and die-cuts to industry are at your disposal. For FREE Portfolio, containing samples of over 50 materials for solving special problems, write TODAY to:

FELT PRODUCTS MFG. CO., 1523 Carroll Avenue, Chicago 7, Ill.
Warehouses in: Atlanta, Boston, Dallas, New York, Los Angeles, Oakland, Portland

FEL-PRO ENGINEERED **gaskets**

If you write maker identify as IEN - 11615

Smartest Buy for plant supply

The BIG 10-ROLL PACKAGE

Every roll sealed in cellophane stays factory-fresh. Ask your dealer for this handy package of the tape that goes further, wraps right, lasts longer. Jenkins Bros. (Rubber Div.), 100 Park Ave., New York 17.

JENKINS *Gold Seal Tape* FRICTION RUBBER

MADE BY JENKINS BROS. MAKERS OF FAMOUS JENKINS VALVES

If you write maker identify as IEN - 11616

Tempilstiks°

the amazing crayons that tell working temperatures from 113° to 2000° F.

in
welding
flame-cutting
tempering
forging
casting
molding
drawing
straightening
heat-treating
in general

$2 each gives up to 2000 readings

It's this simple: Mark the work piece with the proper Tempilstik.° When the mark melts, the specified temperature has been reached.

°F	°C	Available at these temperatures (°F)							
113	100	288	375	550	1000	1350	1700
125	113	300	388	700	1050	1400	1750
138	125	313	400	750	1100	1450	1800
150	138	325	450	800	1150	1500	1850
163	150	338	500	850	1200	1550	1900
175	163	350	550	900	1250	1600	1950
188	175	363	600	950	1300	1650	2000

Also available in pellet and liquid form.

FREE SAMPLE PELLETS
Use this coupon. Specify temperatures of interest to you.

TEMPIL° CORP., 11 West 25th St., N. Y. 10, N. Y.

Please send free sample pellets in the following rating _____

Name _____

Company _____

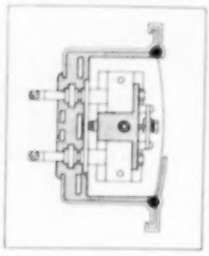
Address _____

booth No. 155 National Metal Show, Philadelphia

If you write maker identify as IEN - 11618

METER . . Electrical panel instrument with shock proof D'Arsonval movement

Source: SUN ELECTRIC CO.
6387 Avondale Ave., Chicago 31, Ill.



3½ inch diameter

Ruggedized construction characterizes this new line of electric meters to satisfy Military Specifications MIL-M-10304. The instruments are available for control, direction, transmission and signaling. They are particularly suited to stand up under rough use, mechanical shock and extreme temperature and pressure.

Construction includes a shock mounted meter movement in a die cast frame inside a rubber lined housing. The convex observation wind w on the front is rubber grommeted and sealed to the rubber lining so moisture or dust cannot enter. Side terminals are provided with tinned binding screws and terminals assembled in non-rigid mounting to minimize danger of breakage or damage during the wiring operation. The line includes dc. voltmeters, ammeters, milliammeters, microammeters and a similar line of rectifier-type ac. units.

If you write maker identify as IEN - 11619

HOIST . . Hand ratchet unit to lift, pull, bind, ¾ and 1½ ton

Source: COFFING HOIST CO.
802 Walter St., Danville, Ill.

Holds positively

The load is carried on a link chain riding a pawl and ratchet operated sprocket in this new Model R lever-operated hoist. The ratchet is designed to hold the load positively so no friction brake is required. The link chain adds flexibility for off-center applications. It can be pulled freely through the hoist head for quick adjustment when it is not under load.

The operating lever can be manipulated in any position in either long or short stroke. Safety stops prevent spinning. Loads can be lifted. Pull can be applied to move heavy objects over slanting or horizontal surfaces. Loads can be tightened and secured in place.

Identify as IEN - 11620

A 3,300-ft. run of Tennessee Eastman's Tenite butyrate plastic pipe was surface laid in Canada to carry oil from a well to a storage tank. A pump forces the oil through at pressure under 30 pounds. The line was laid in five hours by joining 20-ft. sections with cemented couplings. Flexibility of the Tenite material permits the pipe to follow ground contours.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11621

FOR ALL TYPES OF INDUSTRIAL FLOATS

WHEN you order from Chicago Float you're sure of getting high quality, dependable floats, regardless of what your requirements are. You can be sure that every float shipped is backed by more than 35 years' experience in the building of floats for every purpose — high or low pressures and temperatures, corrosive fluids, open tank applications or other specific uses. For everything in industrial floats, look to Chicago Float Works.

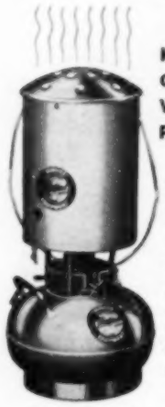
A COMPLETE LINE

- **STAINLESS STEEL** — Diameters from 2" to 10". Spherical shape.
- **COPPER** — Diameters from 2" to 12". Shapes: Spherical, oval, cylindrical (flat or radius heads and with or without internal reinforcements or wear bands), column type, and disc type.
- **MONEL, NICKEL, BRASS** — Diameters from 2" to 10". Spherical and cylindrical shapes.
- **ALUMINUM** — Diameters from 4" to 12". Spherical and cylindrical shapes.
- **STEEL** — Diameters from 2" to 14". Spherical shapes.

SEND FOR FLOAT CATALOG

CHICAGO FLOAT WORKS, INC.
2326 South Western Avenue • Chicago 8, Illinois

If you write maker identify as IEN - 11622



KEEP OUTSIDE CREWS WARM WITH PROPANE* PORTABLE HEAT

● With this new Mutual industrial heater you can help eliminate absenteeism this winter by insuring greater comfort and working efficiency for outside crews. This handy Portable Propane Heater is easy and safe to use. Ideal for telephone workers, construction and field survey shelters, small army type field tents, brooders, milking sheds and many industrial uses.

11,000 B.T.U.

Starts instantly without pumping or priming. Burns clean without smoke or gas fumes. May be used in confined quarters. Has heavy steel bottom to prevent tipping. Heating unit available with or without Propane cylinder. ORDER NOW WHILE STOCKS ARE AVAILABLE.

BENCH TYPE

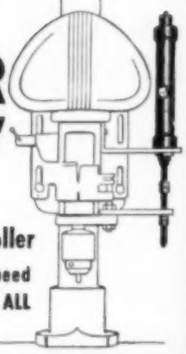
*Liquefied Petroleum Gas

Mutual LIQUID GAS EQUIPMENT CO., Inc.
5400 WEST IMPERIAL HIGHWAY, INGLEWOOD, CALIF.

If you write maker identify as IEN - 11623

Easy does it!

"POWER CHECK"*



. . . an adjustable Precision Feed Controller

. . . retards the feed speed for ANY PORTION or for ALL of the feed-travel

MAKES EVERY OPERATOR AN "EXPERT"

- Applicable to any feeding mechanism where precision control is desirable.
- Controls the pressure at work surface or at any stage of penetration or approach.
- Increases tool life . . . tools require less frequent sharpening.
- Reduces work rejects . . . insures uniformly clean, high quality work even by the inexperienced.
- Adjustable for from 1 to 1000 lbs. retarding pull. . . . Completely self-contained unit . . . standard unit available in 2", 4", 6" and 8" stroke. Special intermediate strokes obtainable up to 9". . . . Installed by simple bracket mounting . . . actuated by moving element of feed or feed table . . . virtually fool-proof. Inexpensive.

Write for informative bulletin DC-208-A.

NATIONAL PNEUMATIC CO., INC.
125 AMORY STREET, BOSTON 19, MASS.
NEW YORK PHILADELPHIA CHICAGO DETROIT

NP "POWER-CHECK" precision FEED CONTROLLER

* Trade Mark

If you write maker identify as IEN-11625

MYSTIK® BRAND TAPES
SELF-STIK

14 Colors!

To identify . . . code . . . decorate . . . trim

Self-Stik Mystik® Brand Cloth Waterproof Tapes are available in 14 colors . . . white, black, red, green, blue, yellow, brown, wine, pink, tan, gray, light blue, light green and olive drab. No other tape offers this range of colors to multiply the many uses in your operations. Takes the place of permanent painted stripes, decorations, on many products. Makes decorative hinges, bindings. Write for information and free samples. Mystik Adhesive Products, 2644 North Kildare Avenue, Chicago 39.

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If you write maker identify as IEN-11626

Guess Work Can Cost You Money!

Get accurate engineering data quickly with a

DILLON Universal TESTER

For Flat, Round or Special Shapes in all types of materials . . .

With a DILLON TESTER you can do all your own testing in your own plant; saving time and money. There are seven different DILLON gauges, all interchangeable to handle materials with tensile strength as low as .25 lbs. or as high as 125,000 lbs. P.S.I.

Motorized or hand operated. Portable.

DILLON UNIVERSAL TESTERS are compact, ruggedly built, accurate instruments. They are fast and easy to operate—even by untrained help.

DILLON TESTERS are used throughout the world by modern industry because they are economical and dependable, and built to last a lifetime.

Each DILLON TESTER is individually calibrated with an elastic proving ring. These rings are certified by the United States Bureau of Standards and are accurate to within 2/10 of 1%. In actual calibration, the ring is placed in direct series with the Dynamometer gauge. Stress curves are made by highly experienced technicians. Every instrument is individually checked.

FREE! Valuable Tensile Strength Computer and profusely illustrated bulletin. Call, write or wire TODAY.

Precision Instruments for Precision Testing

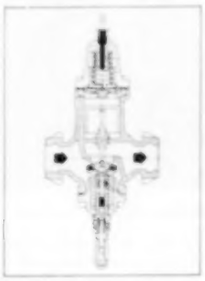
W. C. DILLON & CO., Inc.

1421 K SOUTH CIRCLE AVENUE • FOREST PARK, ILLINOIS

If you write maker identify as IEN-11628

VALVE . . Pressure regulator to control refrigerant evaporator

Source: DERSCH GESSWEIN & NEUERT INC.
4847-51 W. Grand Ave., Chicago 39, Ill.



Capacity chart available

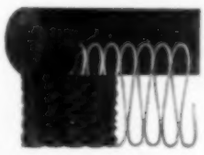
Gas pressure in a refrigerant evaporator is held constant and independent of fluctuations in suction pressure at the compressor by application of the company's new Wolf-Linde pressure regulation on the outlet side of the evaporator. The new valve is available in port sizes ranging from ¾ to 6 inches. It can be set for desired pressure by turning a screw at the top of the housing. It can be opened manually, after removing a protective cap, by turning a stem at the bottom of the housing. Application can be made in circuits handling any type of refrigerant. The valve can be specified with connections for bolting, threading, welding or tube assembly.

Flow through the valve is shown by the arrows in the illustration. Control is by action of the inlet pressure from the evaporator beneath a spring loaded diaphragm. This closes a port that will lead this pressure down to the top of a piston mounted on the valve stem, as long as the spring setting exceeds the inlet pressure. Pressure build up above the spring setting raises the diaphragm, applies pressure on the piston and opens the valve. As soon as gas has been exhausted from the evaporator so the set pressure is recovered the spring beneath the valve disc assembly will return the disc and piston again to closed position.

If you write maker identify as IEN-11629

SEALING . . Resilient strip gasket for doors, ports, hand holes, windows

Source: BRIDGEPORT FABRICS INC.
193-7 Holland Ave., Bridgeport 1, Conn.



A good leak stopper

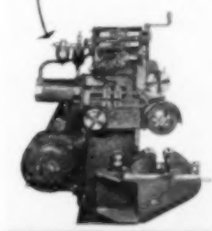
Sponge rod made of natural or synthetic rubber, or silicone rubber, is combined with a woven wire flange in a curing process that makes the flange and the rod a single integral piece. The bonded assembly is then coated with a neoprene or natural latex. The wire loops in the flange form individual anchors for the sponge rubber as a sealing or weather-stripping member.

The rod portion ranges from $\frac{1}{16}$ to 1 in. in diameter. The flange ranges in width from $\frac{1}{8}$ to 1 inch. Standard and heavy duty constructions are included in the line. Assemblies employing fiber glass and silicone can be employed in high temperatures. The line includes units suitable for a range of temperatures from below freezing to those for which silicone is capable. Single and double assemblies with the flange on one side or between two sponge rod members are available. List price depending on construction and size ranges from 3½ cents to $1 per foot. Cut lengths or rolls measuring 100, 300 or 500 ft. can be supplied.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN-11630

NORGREN provides critical air control and cylinder lubrication for CONTINENTAL PIPE CUTTERS



• Write, now, for details on this application . . . Norgren Blueprint No. 116 . . . and how Norgren products may help solve your problems.

C. A. Norgren CO.

3432 S. ELATI ST., ENGLEWOOD, IN COLORFUL COLORADO

If you write maker identify as IEN-11631

5 FIRMS ALONE PURCHASED. . .

2,165,458 LBS.

SPEED PATCH

WORLD'S FINEST, FASTEST, FLOOR FIXER!

REPEAT ORDERS ARE PROOF OF A PRODUCTS MERIT

Many millions of pounds of Speed-Patch are in use. Five firms alone, purchased 2,165,458 lbs. The reason is simple. Speed-Patch is unequalled for patching worn, cracked, cratered floors. Easy to apply. Takes only one minute per square foot. No waiting to set or dry . . . truck over it immediately. It's tough, long-lasting, economical, ready-mixed. Write for details NOW!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7470 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 3

If you write maker identify as IEN-11632

FLAT SPRING STEEL

PROMPT DELIVERY!

Roebling's expanded facilities can meet your needs right now!

NOW YOU CAN GET fast deliveries of Roebling high carbon flat mechanical spring steel—expanded facilities have boosted production to new highs. And Roebling flat spring steel comes as you want it—annealed, hard rolled untempered, scaleless tempered, tempered and polished, blued or strawed. Uniform quality saves preparation time for users, brings faster, smoother production . . . Write for full information. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

If you write maker identify as IEN-11633

This book will help you, too!

44 PAGES On How To Improve Your Polishing Operations

You'll find plenty of time- and money-saving facts in Norton's booklet, "Setting Up Polishing Wheels and Belts." Tells how to prepare glue for wheels . . . how to set up and dry wheels . . . how to set up abrasive belts . . . how to get best results in polishing. Contains detailed information on abrasive grains for polishing, including selection tables. Ask your Norton Distributor for Form 1340, or write direct to Norton Company, Worcester 6, Mass. Distributors in all principal cities.

NORTON ABRASIVES
Making better products to make other products better

If you write maker identify as IEN - 11634

a good line to remember! always call "SAFETY" FIRST!

for all socket screw products

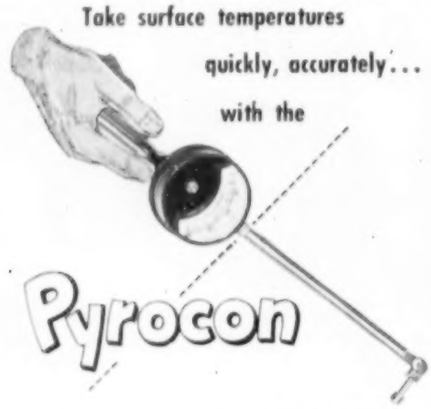
Top quality and unlimited selection are by-words with Safety Socket Screw—exclusive specialists in socket screw products. For every requirement—heavy machinery to precision instruments—call for "Safety-first."

Sold through authorized Industrial Distributors

SAFETY SOCKET SCREW COMPANY
6508 Avondale Avenue, Chicago 31, Illinois

If you write maker identify as IEN - 11635

Take surface temperatures quickly, accurately... with the



The handy Alnor Pyrocon is unequaled for quick, accurate reading of all surface temperatures . . . whether surfaces are metallic or non-metallic, flat or curved. Accurate temperatures are easily understood on the Pyrocon's direct reading scale face . . . without interpolation or need of conversion tables. A wide selection of thermocouples and extension arms permits adaptation to many types of service. For complete details and prices, send for Bulletin No. 4257. Illinois Testing Laboratories Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 11636

MAXIM Snow Throwers

TO REMOVE **SNOW**

Cut snow removal costs by throwing snow the modern, efficient way . . . no pushing. Snow is literally eaten up and dispersed 40 feet away in either direction . . . no built-up snow banks. Four husky models, 4.6 h.p. to 46 h.p. Over 2,000 in use in 32 states. Customer reports prove that this better method quickly pays for itself.

GET THE FACTS
THE MAXIM SILENCER COMPANY
71 Homestead Ave., Hartford 1, Conn.

Name .....

Address .....

BMT82

If you write maker identify as IEN - 11637

CLEANING . . Steam spray machine operates from steam line in a plant

Source: MALSBARY MFG. CO.
843-47 92nd Ave., Oakland 3, Calif.

For general cleaning duty

Wheel mounted solution tank in this new Model-51 steam spray cleaning machine holds 50 gal. of cleaning compound in solution, sufficient for 4 to 6 hr. of operation. A variable volume pump enables the operator to balance solution delivery to available steam volume which is taken from an existing steam line in a plant. Solution and steam are delivered through a 25-ft. length of wire braided steam hose and a spray gun equipped with a high pressure nozzle. The pump is driven by a motor for operation on 110-volt ac. or dc. Overall dimensions are 33 by 24 by 42 inches. Weight is 350 pounds.

If you write maker identify as IEN - 11638

PRESS TOOLS . . Die cushion, air operated, to 45 ton on 100 lb. air

Source: DAYTON ROGERS MFG. CO.
2822-36 13th Ave. S., Minneapolis 7, Minn.

Hardened pressure pad

Model CC-24-12 is a new double cylinder die cushion that will maintain very nearly constant draw ring holding pressure through the complete stroke of a press on a deep draw operation. The assembly suspends from the bottom of the press bed frame by means of four supporting rods. The assembly includes centralized lubrication.

The cylinders are made of steel and are independent for satisfactory operation with off-center work. The company is prepared to supply the cushion for a specified press and connection through a regulating valve to a shop air line.

Identify as IEN - 11639

Defense production facilities of some 1,600 Rhode Island companies are listed in a new directory that has been published by the Rhode Island Development Council. It is being distributed to Federal procurement agencies and prime contractors. The companies are listed alphabetically with basic data on location, employment, present products and services, World War II production. There is an alphabetical list of the products and services with company names under each.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11640

Investigate LAPPING!
On Metals-Ceramics Quartz and Plastics

Here's What You Can Do With a CRANE LAPMASTER..

With a Lapmaster you can lap different parts in one cycle, lap wide range of parts of different materials in short or moderate production, lap identical parts at tremendous production rates and maintain tolerances to one light band (.0000116"). GET all the facts. Lapping may be the solution to your problem.

Write for free bulletin I.E.N. 52.

JOHN CRANE CRANE PACKING COMPANY
LAPMASTER DIVISION
1812 CUYLER AVENUE • CHICAGO 13, ILLINOIS

If you write maker identify as IEN - 11641

That statement came from a manufacturer who cooperated in the field-testing of Oakite Composition No. 95. Here are some of the advantages he found in this new anodic conditioner:

Brighter plating—All films removed . . . no residues, no under-surface shadows, no anodic blackening, nothing to impair the brightness of the electroplate.

Fewer rejects—Major causes of peeling and blistering eliminated . . . consistent success in test-baking for 60 minutes at 300°F.

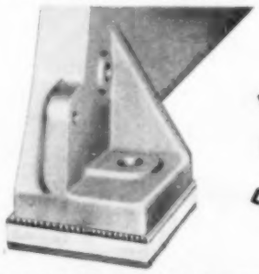
FREE For a copy of "*Good news about electrocleaning zinc base die castings!*"—describing the use of Oakite Composition No. 95—write to Oakite Products, Inc., 16A Rector St., New York 6, N. Y.

Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

If you write maker identify as IEN - 11642

It's SIMPLE To Control VIBRATION and NOISE with Elasto-Rib...



NO BOLTING
NO CEMENTING
LOW COST

Elasto-Rib effectively stops transmission of vibration and noise by utilizing the elastic and damping properties of both cork and rubber.

It is fast and easy to install. For most machine applications, no bolts, lag screws or cement are required. Sheets 24" x 36" can be sawed or cut to size as needed.

New, illustrated booklet tells all about Elasto-Rib and how to install it. Ask for ER-701 and free sample.

THE KORFUND COMPANY, INC.

48-35 E. Thirty Second Place, Long Island City 1, N. Y.
In Canada: 510 Canal Bank, Ville St. Pierre, Montreal

If you write maker identify as IEN - 11643

NEW! TOP-CLAMP KENNAMATICS give Top Performance

1 **SIMPLIFIED DESIGN**—one rugged clamp and one sturdy screw for all standard tool styles and sizes.

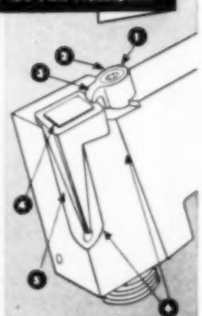
2 **EASY TO GET AT**—double end socket type screw permits release of clamp from either top or bottom.

3 **EASIER TO INDEX**—simply loosen clamping screw and clamp is up and away from insert.

4 **CHIP BREAKER**—most types can be used on insert without interference with clamp.

5 **OPEN FRONT**—provides added clearance and eliminates shank abrasion from "chip wash".

6 **STRONGER**—design provides greater rigidity. Insert is solidly backed up in direction of cutting force.



PLUS Extended tool life, simplified tool-setting, less grinding expense . . . Available in all "industry standards."

KENNAMETAL Inc. LATROBE, PA., U.S.A.

If you write maker identify as IEN-11644

TAP-LOK INSERTS

strengthen tapped threads and cut assembly costs

INSTALLATION

*Reg. U.S. Pat. Off.

Send for descriptive folder

•

Also manufacturers of Groov-Pins for positive locking press fit

Somebody—usually the customer—gets hopping mad when a thread strips. Threads in a part or product made of soft metal, plastic or wood should be strengthened by a steel or brass bushing.

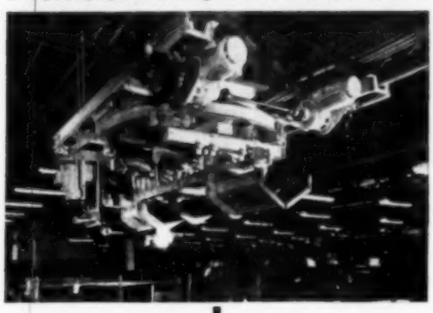
The Tap-Lok Insert* is a bushing threaded externally to screw into the parent material and internally to hold the male threaded member. Slotted segments enable the insert to cut its own thread in the drilled or cored hole, saving a separate tapping operation. It withstands vibration without loosening, has maximum torque-and-pull resistance and avoids the time-consuming failures of cast or molded inserts.

GROOV-PIN CORPORATION

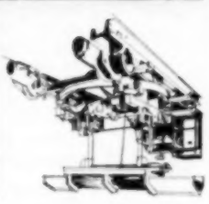
1127 Hendricks Causeway, Ridgefield, N. J.

If you write maker identify as IEN-11645

INCREASES FLOOR CAPACITY 50%



OVERHEAD MONORAIL SYSTEM PERMITS INSTALLATION OF 50% MORE SCREW MACHINES —WITHOUT EXTRA BUILDING



A large manufacturer of farm implements solved "expansion pains" in the automatic machine department by installing a Louden Monorail System to handle bar stock.

In addition to increasing by 50% the number of machines in the same floor area, the labor force in this department was cut from 9 men to three men.

"Down time" from shortage of raw stock has been virtually eliminated, since the carrier cab is in continuous telephone contact with a dispatcher, who directs the supply of bars to machines.

All functions are motor driven and controlled from the cab. The hoist can be rotated 90° to permit accurate positioning of the stock in the machine racks.

FREE ILLUSTRATED BOOK

Case histories telling how Louden Monorail Systems have saved time and money for widely different kinds of industries are described and pictured in a new book called, "Economical Material Handling". Write for your copy.

THE LOUDEN MACHINERY COMPANY
7111 S. Superior Ave., Fairfield, Iowa

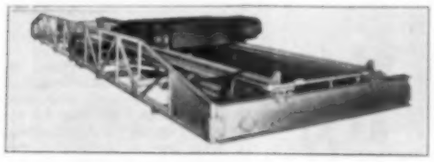
Louden

OVERHEAD MATERIAL HANDLING

If you write maker identify as IEN-11647

CRANE . . Electric traveling design for restricted headroom, 1 to 20 ton

Source: MANNING MAXWELL & MOORE CO.
408 Broadway, Muskegon, Mich.



Specified load and span

Ability to operate in low headroom, to provide high hook lift and to permit accurate load spotting, characterizes three new types of overhead traveling crane that have been added to the company's line of similar equipment. Type D-LHR rates 1 to 3 ton. The 3-ton assembly, operating on a 40-ft. span will clear 29 in. from the top of the runway rail to the lowest obstruction. The hook can be lifted to 15 in. of the top.

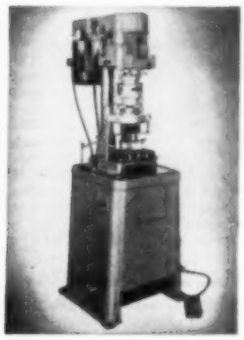
Type D-DML is in three capacities of 5, 7½ and 10 ton. The 5-ton unit on a 40-ft. span will clear 42 in. and will lift its hook to 34 in. from the crane top. This unit is built particularly for light industrial services with speeds running from moderate to slow and with provision for accurate load spotting.

Type D-DMR rates 5 to 20 ton, clears 45 in. from the top of the runway rail on a 40-ft. span and lifts its hooks to within 34 in. of the crane top. Construction in each of the assemblies includes anti-friction bearings, rotating axles on the bridge and trolley, variable speed magnetic control operated by push buttons for floor control or by master switches in a pulpit type cage for bridge control. The gears operate in oil.

If you write maker identify as IEN-11648

THREADING . . Upright machine for automatic high speed production

Source: ETTCO TOOL CO.
571 Johnson Ave., Brooklyn 37, N. Y.



It also drills

Production setups can be made on this new No. 74 machine for single or multiple spindle tapping and drilling on small parts in stationary or indexing fixtures. The machine is controlled at a four-way electrically operated pneumatic valve for work clamping release, ejection, fixture index and spindle advance and retraction. Depth can be set accurately for spindle reverse.

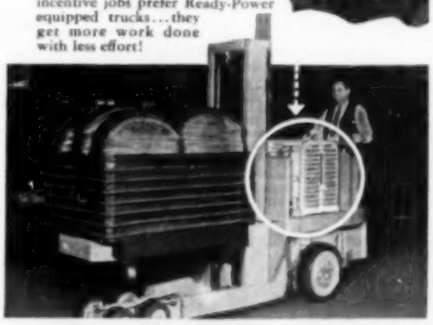
The cycle can be established for single or repeat operation. Tapping and drilling heads can be changed from one job to another to provide units for single spindle setup, stationary or variable-center multiple spindles. The machine has capacity to drive two 1-in. taps in steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11649

"My Choice? READY-POWER DRIVE ...Every Time!"

Ready-Power Drive is full electric drive featuring simple handling and full control, but with no limit to the hours of operation at peak efficiency. No wonder operators on incentive jobs prefer Ready-Power equipped trucks...they get more work done with less effort!



Remember . . . Your Truck Is No Better Than Its Power!

The READY-POWER Co.

3850 Grand River Ave., Detroit 8, Michigan

Manufacturers of Gas and Diesel Engine-Driven Generators and Air Compressing Units, Gas and Diesel Electric Power Units for Industrial Trucks

If you write maker identify as IEN-11650

YOU CAN'T STALL THIS DRILL IN HARDEST STEEL!

IT'S A Thor

Over 36 sizes and speeds from little pistol grip models to heavy duty reaming machines.

If you're tired of "babying" your electric drill, switch to a heavy duty Thor. When minutes mean dollars, do what the smart operators do—use GOOD tools!

use Good tools Thor

PORTABLE POWER TOOLS

INDEPENDENT PNEUMATIC TOOL CO.
AURORA, ILLINOIS

If you write maker identify as IEN-11651

WRENN PAPER COMPANY

SELECTS B&S **SHEAR-CUT SLITTER-REWINDER**

The Wrenn Paper Company, widely recognized for its high quality products, was faced with the problem of slitting a hard-to-handle material. Clean, square edges and uniformly wound rolls were of utmost importance.

After considering several machines, the Bagley & Sewall #15 Shear-Cut Slitter-Rewinder was selected.

B & S Slitters and Rewinders are doing outstanding jobs in mills and converting plants all over the country. Their many unique money-saving advantages make them the first choice of the industry. Before you buy, *compare*...and your choice, too, will be B & S Slitting and Rewinding equipment.

For full details write to The Bagley & Sewall Company, Watertown, New York.

Inserts show Shear-Cut Slitter Units

BAGLEY & SEWALL

designers and builders of

WATERTOWN, NEW YORK

QUALITY MACHINERY SINCE 1853

Foreign Representative: CASTLE & OVERTON, INC., 630 Fifth Ave., New York 20

If you write maker identify as IEN - 11653

Big Shaper Performance Small Shaper Price

The SHELDON 12" Back-Geared Shaper is neither too big, nor too small. It is just right for most shaper work in most tool rooms and shops.

In weight, design features, capacity and performance, it is a "big shaper." In price, operating cost and floor space, it resembles a "small shaper." It is the logical 1st shaper for the small shop and a cost-cutting tool in multiple installations in large plants.

Write for Catalog.

SHELDON
CHICAGO U.S.A.

SHELDON MACHINE CO., Inc., 4208 N. Knox Ave., Chicago 41, Illinois

If you write maker identify as IEN - 11654

Clarke is the answer to heavy floor traffic

MODEL P-17
CLARKE FLOOR MAINTAINER
Job fitted sizes for every application. Scrubs, waxes, polishes, sands, steel wools, and shampoos floors to perfection. Four sizes.

Clarke is the cure for heavy floor traffic in any building. It's easy to keep floors clean, waxed and polished with a multiple-duty Clarke Floor Maintainer on the job. Special floor care operations . . . rug shampooing, steel wooling and sanding are quickly, quietly and economically accomplished. Floor maintenance costs take a nose-dive when superior Clarke equipment is at work . . . and we'd like to prove this to you in your own building. For a free demonstration, send the coupon below today!.

MODEL WD-23
CLARKE WET AND DRY VACUUM CLEANER
Picks up water, dirt and dust. Quick draining dump valve eliminates heavy lifting.

CLARKE SANDING MACHINE COMPANY
Muskegon, Michigan

Floor Sanding . . . Edging . . . Maintenance Machines . . . Portable Hand Sanders

CLARKE SANDING MACHINE COMPANY
2810 Clay St. • Muskegon, Mich.

Please rush me hints on easier and faster floor care and more information on the following machines:

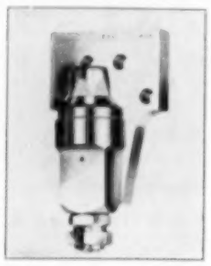
☐ Clarke Floor Maintainer ☐ Clarke Wet and Dry Vacuum Cleaner
☐ Please arrange a free demonstration

NAME .....
ADDRESS .....
CITY .....
STATE .....

If you write maker identify as IEN - 11656

SPRAYING . . Atomizing nozzle, piston control for intermittent use

Source: SPRAYING SYSTEMS CO.
3208 Randolph St., Bellwood, Ill.



Specified capacities

Installation and maintenance are simplified, particularly in application in a machine, by the plate mounting for this new air operated atomizing nozzle. The plate can be secured in permanent position with pipe connections at the upper edge of the plate for the liquid, the atomizing air and air pressure to the built-in controlling piston. The nozzle is secured to the plate with suitable seals for the flow passages by means of a single stud and lock nut. It can be removed after loosening the nut and a new nozzle assembly put in its place quickly instead of attempting maintenance on the job.

Applying pressure through the central connection lifts a spring-backed piston in the upper portion of the nozzle assembly for atomized spray delivery downward through the nozzle opening. Overall dimensions of the unit shown in the illustration are about 2½ by 2¼ by 4¾ inches.

If you write maker identify as IEN - 11657

CONVEYING . . Gate section hinges upward in roller conveyor line

Source: METZGAR CO.
417 Douglas St., N. W., Grand Rapids 4, Mich.

To cross an aisle

In-Line is a new upward hinging gate section for installation in a roller conveyor line so the conveyor can be run across an aisle without interfering with normal traffic. The section is counter weighted so it will remain in vertical position when traffic must move through the line. The new unit is available in opening lengths of 5 ft. or less and in three widths measuring 11½, 15 and 18 inches. It can be specified for either wheel or roller conveyor sections in the company's standard lines.

Identify as IEN - 11658

Night driving may be safer with development of a new RCA phototube and an Autronic Eye that provides headlight beam control. It mounts behind the windshield of a vehicle to see what the driver sees. It selects the safest headlight beam for the vehicle to suit approaching road conditions. It dims the lights on its vehicle when it sees bright lights approaching. It keeps them dim until the vehicle has passed. The "other fellow's" lights will be dimmed also if he is similarly equipped.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11659

NEW *Automatic Transveyor*

This new Automatic Electric Truck is the answer to industry's need for a more compact, low cost Stacker. It is engineered to maneuver in six foot aisles and where floors and elevators have limited capacity.

EXCLUSIVE BALANCED ACTION

The Transveyor has two exclusive features that insure better performance, longer life. **1.** The center-pivot design compensates for irregular floor surface thus eliminating frame distortion and uneven load distribution. **2.** Drive and idler wheels are tie rod connected. This wheel alignment prevents costly, scrubbing action that results in excessive tire wear to non-drive wheel.

Expressly designed for . . .

- Greater storage space
- Narrow aisles
- High-stacking
- Maneuvering in close quarters
- Limited capacity floors and elevators
- Economy and long-life

Transveyor STACKER
A PRODUCT OF AUTOMATIC

Write today, for full details
Automatic®
109 West 87th St., Dept. T-2
Chicago 20, Illinois

If you write maker identify as IEN - 11660

HIGH CAPACITY
HIGH VELOCITY

BURT F.E.F. VENTILATORS DO AN EXCEPTIONAL JOB

If your plant requires the rapid removal of heat, smoke or fume-laden air, the Burt Free Exhaust Fan Ventilator was designed for you. A Burt Axial Flow Airfoil Fan accelerates the exhaust vertically upward at high velocity. Twin dampers thoroughly weather-proof the F. E. F. — open automatically to ventilate. Its high efficiency recommends it for many installations. See Sweets or write us for Bulletin SPV-18 for a complete description of this modern Burt development.

FAN & GRAVITY VENTILATORS - LOUVERS - SHEET METAL SPECIALTIES

The Burt Manufacturing Company
909 So. High St., Akron 11, Ohio

If you write maker identify as IEN - 11661

AETNA

is the Single, Logical Source for all your PLYWOOD needs

INDUSTRIES USING AETNA PLYWOOD

AVIATION

TRANSPORTATION

TOOL

CHEMICAL

ELECTRICAL

Aetna has a large stock of Borden Glues, Monsanto Sealers and Bleaches to meet your most exacting needs.

Aetna provides plywood for every industrial use—by the carload or by the panel—depending on your requirements. Aetna supplies plywood for fabrication, from small toy parts to important members of airplanes . . . for building, from concrete forms to exteriors.

Here are 5 reasons why Aetna is the single, most logical source for all your plywood needs:

1. **LARGE STOCK** on hand, including sizes cut to your specifications.
2. **OVER 40 SPECIES**—Fir, Gum, Birch, Walnut, etc. in stock 1/16" to 3" thick, 36" x 48" to 48" x 192".
3. **MILL SHIPMENTS** to your exact requirements.
4. **QUICK DELIVERIES** from 4 strategically located warehouses—completely stocked.
5. **ENGINEERING STAFF** to give you solid technical help in the form of performance data, design calculations, industrial facts.

That's it . . . huge stock, wide range, quick service and technical help at no extra cost.

It will pay you to investigate Aetna Service.

AETNA PLYWOOD & VENEER CO.
1724 N. Elston Ave., Chicago 22, Ill.
ARmitage 6-7100

Branch Warehouses: Grand Rapids 7; Indianapolis 2; Rockford

AETNA—PLYWOOD for every purpose

If you write maker identify as IEN-11663

OZITE all-hair felt has an outstanding record for solving problems of cushioning, padding, thermal and sound insulation. Our research and engineering staff are ready to give you competent assistance should you have any problems in these or similar applications.

OZITE felt in standard weights and thicknesses meets most production requirements. Special weights and thicknesses, as well as paper, cloth, or foil backings and stitched reinforcements may be had in production quantities.

Write today for OZITE bulletin No. 1500. If you desire samples for test, simply send a brief description of your application.

AMERICAN HAIR & FELT CO.
Dept. X210, Merchandise Mart Chicago 54, Illinois

If you write maker identify as IEN-11664

AERO-SEAL WORM-DRIVE HOSE CLAMPS

WON'T SHAKE LOOSE!

Wherever you have to clamp a hose connection tight . . . or wherever you want to lock two objects of any shape together in an unshakeable bond . . . your best bet is AERO-SEAL.

Threads of steel worm engage deep into slots in stainless steel band — hold tight under extreme vibration in automotive, aircraft and industrial applications. CAN'T SHAKE LOOSE.

One-Hand Installation
Install an Aero-Seal any place you can reach with thumb and one finger. Self-feeding when band engages worm threads. Thumb-grip and screwdriver types.

Re-use Again and Again
When hose is worn you RE-USE the same Aero-Seal again and again. RE-USE Aero-Seals on temporary clamping jobs—they conform to any shape without damaging band.

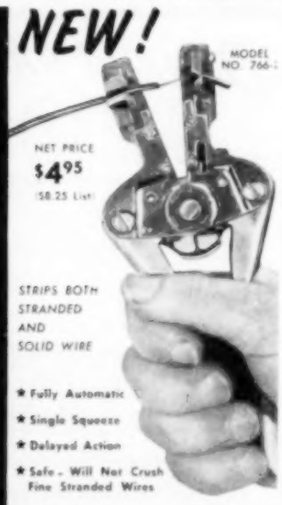
Use of Stainless Steel Subject to Government Regulations

"Aero-Seal"® WORM DRIVE HOSE CLAMPS
A ANOTHER BREEZE PRODUCT
BREEZE CORPORATIONS, INC.
41 South Sixth St. Newark, N. J.

If you write maker identify as IEN-11665

SPEEDEX AUTOMATIC WIRE STRIPPER!

NEW!



MODEL NO. 766-1

NET PRICE
$4.95
($8.25 List)

STRIPS BOTH STRANDED AND SOLID WIRE

★ Fully Automatic
★ Single Squeeze
★ Delayed Action
★ Safe - Will Not Crush Fine Stranded Wires

SEE YOUR DISTRIBUTOR OR WRITE FOR LITERATURE AND INFORMATION

WOOD SPECIALTY *Manufacturing Co.*
909 Taylor Avenue, Rockford, Illinois

If you write maker identify as IEN-11666

COMMUNICATING . . Two way radio for installation in a large plant area

Source: MOTOROLA INC.
4543-47 W. Augusta Blvd., Chicago 51, Ill.

Yes, "immediately"

New assembly has been made of the company's Handie-Talkie radio-phone and its Quik-Call selective signaling equipment in a radio call box for two way conversation with a central office. The operator at the central point can select a desired call box, of several distributed through an area, by transmitting its selective signal to close the circuit to a red light on top of that particular box.

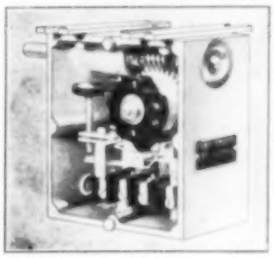
The guard or operator near that station answers by unlocking the box and signaling the central office. A coded call also can be initiated at any call box by depressing a signal button to close the circuit to a lamp on the central station where one is mounted for each call box in the installation.

The portable unit can be removed from the box and carried about for two-way talk with the central office in the event of an emergency that makes it desirable for the operator to work at some distance from the box location. This unit operates on 110-volt, 60-cycle ac. when it is installed in the call box. It switches to its own self-contained battery power supply when it is employed as a mobile unit. A single central station can control a maximum of 240 call boxes. Operation is in the 25 to 50-mc. and the 152 to 174-mc. ranges.

If you write maker identify as IEN-11667

SWITCH . . Rotating limit design for reversing duty on moving elements

Source: FURNAS ELECTRIC CO.
1008 McKee St., Batavia, Ill.



About $27

Operating cams are mounted on the two sides of a worm gear in this new rotary limit switch. The cams are arranged so they can be adjusted around the complete gear circle in 32 steps with relation to each other. Each cam operates in connection with a contact arm and a finger screw adjustment to open normally closed circuits when the high point on the cam comes around into operating position.

The worm gear is driven by a worm with a shaft that can be extended through the right hand or left hand side of the housing. The assembly is available in ratios of 2 to 34 to 1 between the worm and the gear. The contacts stand normally closed. They rate 3 amp. on 110-volt ac. in standard duty. Overall dimensions, including the mounting brackets, are 5⅝ by 4⅝ by 6⅛ inches. The steel shaft extends 2¼ in. from the aluminum housing for drive connection.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11668

AT LAST! A DIFFERENT GRAVITY CONVEYOR for FASTER MATERIALS-HANDLING

The NEW Farquhar *Roll-Free* Conveyor with the exclusive *Meta-Seal Process* gives you

- METAL SURFACES SEALED AGAINST ABRASION AND GALLING
- IMPREGNATION WITH LASTING LUBRICANT
- BEARINGS, WHEELS AND ROLLERS PROTECTED AGAINST CORROSION
- GREATER CONVEYOR SPEED WITH LESS WEAR

Farquhar ROLL-FREE Gravity Conveyors are different! Unique features assure you rapid movement of materials, longer life, greater efficiency and lower maintenance costs. All wheels and rollers, for example, are treated by the amazing Meta-Seal process. This process impregnates every bearing and contact surface with a lasting, efficient lubricant . . . seals every metal surface against abrasion and galling. The entire wheel or roller—not just the surface—is safeguarded from deadly corrosion! Free engineering help—or write for

FREE Catalog showing lines of ROLL-FREE Gravity Conveyors. Also, "Owners Report," booklet of case histories of money-saving conveyor installations. Address: A. B. FARQUHAR CO., Conveyor Dept. O-32, 143 N. Duke St., York, Pa., or 618 W. Elm St., Chicago 10, Ill.

Farquhar CONVEYORS SAVE YOU MONEY

WORLD'S MOST COMPLETE CONVEYOR LINE

A. B. FARQUHAR COMPANY Division of THE OLIVER CORPORATION

If you write maker identify as IEN-11669

MACHINE DESIGNERS!

GET THE FULL STORY ON HANNIFIN'S

NEW Pilot-Master Air Control Valves!

HERE'S WHY MAINTENANCE MEN PREFER THEM . . .

FEWER VALVES TO STOCK
Use same valve 2-way or 3-way, normally open or normally closed.

FEWER PARTS TO STOCK
Unique cartridge construction makes "insides" easily replaceable.

INDUSTRIAL SOLENOIDS
Long-lasting, easy to change coils to any standard voltage.

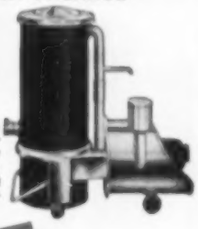
All Sizes From ¼" to 1¼" I.P.S.
Pressures From 15 to 150 P.S.I.
Write for Bulletin 231 and get the complete story!

HANNIFIN
Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Ill.

If you write maker identify as IEN-11670

HEAVY DUTY POWER
IN A LIGHTWEIGHT PACKAGE

WITH SPENCER PORTABLE VACUUM CLEANERS



For heavy duty general cleaning, offices, hallways, laboratories, conference rooms, etc. . . . wet pick-up . . . dry mop cleaning . . . 3 models (½, ¾ and 1 H. P.), sturdily built for long, hard service. (Larger machines available for plant use.)

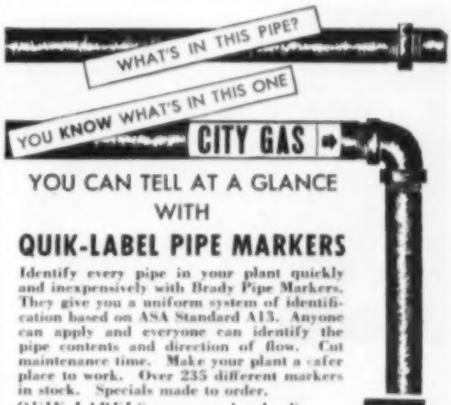
WRITE DEPT. IE FOR DETAILS

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

15PS2R

If you write maker identify as IEN-11671



YOU CAN TELL AT A GLANCE WITH

QUIK-LABEL PIPE MARKERS

Identify every pipe in your plant quickly and inexpensively with Brady Pipe Markers. They give you a uniform system of identification based on ASA Standard A13. Anyone can apply and everyone can identify the pipe contents and direction of flow. Cut maintenance time. Make your plant a safer place to work. Over 235 different markers in stock. Specials made to order.

QUIK-LABELS come on hand, dispenser cards. They are printed in large black letters on approved ASA background colors. Applied in a jiffy—they stick without moistening. Use indoors or outdoors. Cost only a few cents per marker.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

DISTRIBUTORS IN OVER 125 PRINCIPAL CITIES
MANUFACTURERS OF SELF STICKING PRODUCTS

W. H. BRADY COMPANY
734 W. GLENDALE MILWAUKEE, WISCONSIN

If you write maker identify as IEN - 11672

$1451 for G-E CAPACITORS CUTS POWER COSTS $1800 A YEAR!

Montrose Chemical Corp. of Calif. also relieves seriously overloaded transformers

Rapid postwar expansion seriously overloaded the transformers that supply power to the Montrose Chemical Corp. of California located in Los Angeles.

The plant's power factor was down to 76%, so G-E engineers recommended the installation of 180 kvar of G-E capacitors at a cost of $1451.

Capacitors improved power factor so that it is now up to better than 97%. They also relieved transformer overloading by reducing line current. And since Montrose Chemical has a power factor demand clause in its contract, power costs were reduced by $1800 a year. Thus, the saving on power costs alone paid for the capacitors in less than ten months! *And these savings will go on indefinitely.*

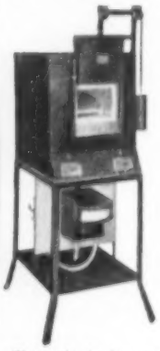
They often hold key to lower power costs. If your power factor is below 85% and if there is a power factor or kva-demand clause in your power contract chances are you, too, can make worthwhile savings on your power costs by installing capacitors. For additional information, consult your local G-E Apparatus Sales Office, authorized G-E agent or distributor. Or write to Section 407-211 for Booklet GEA-5632—"How to Use Capacitors to Reduce Power Costs and Gain System Capacity." *General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

If you write maker identify as IEN - 11673

***PRODUCTION RUGGEDNESS!* √**

***LABORATORY ACCURACY!* √**



HUPPERT

MODEL 11 FM FURNACE

Consistent temperature-controlled heat output of this heavy-duty electric furnace has found wide acceptance in the tool and die industry. Laboratories too have found trouble-free operation and close temperature control a great asset to their closely budgeted operations. This dependable furnace features—special alloy elements, fully enclosed contacts, snug fitting counterbalanced sliding door, °F. or °C. pyrometer and removable porcelain tray. Model 11FM is available in 220 volt A.C., single phase, max. load is 4 KW., maximum temperature range—2000° F. The inside dimensions measure 8" wide by 8" high by 12" deep.

The stand is fabricated of 1½" x 1½" x ⅛" angle iron and finished with two coats of black kinkle finish. A convenient service shelf is 12" above the floor.

Write today for literature on complete line of Huppert furnaces and ovens in floor and table models.

Complete with automatic temperature control **$490.00**

OTHER HEAVY-DUTY MODELS

Model No.	Inside Dimensions	Max. Temp.	KW	Price
8A FM	8" x 8" x 8"	2000° F.	4	$530.00
12 FM	8" x 8" x 12"	2000° F.	6	570.00
12A FM	8" x 8" x 16"	2000° F.	9	650.00

K. H. HUPPERT CO. 4856 Cottage Grove Avenue Chicago 37, Illinois

Manufacturers of Electric Furnaces and Ovens

If you write maker identify as IEN - 11674

IT'S LIKE MONEY IN THE BANK

The dusts from industrial grinding operations can be valuable. This is particularly true of dusts from diamond-impregnated wheels, which today have a real cash value.

Torit Dust Collectors are ideal for capturing and saving dusts from grinding operations. As diagrammed above, air moves from the outside to the inside of the filters. These, in turn, are made of a specially hard-surfaced and tightly woven material. No dusts become embedded. A few strokes of the foot pedal shakes all dust into the storage tray.

This salvage of valuable dusts is a bonus, for Torit Dust Collectors have long proved their ability to pay for themselves through economical operation and superior efficiency. For complete details and the latest Torit catalog, write:

TORIT Manufacturing Co.
204 Walnut Street St. Paul 2, Minn.

See us at Booth 1881, National Metal Exposition

If you write maker identify as IEN - 11675

TESTING . . Hand operated machine applies tension load slowly, steadily

Source: W. C. DILLON & CO.
1419-23 S. Circle Ave., Forest Park, Ill.

Pendulum sets load

Four scales on the dial of this new Multi-Low-Range unit in the company's line of testing equipment read to 10, 25, 50 and 100 pounds. A fifth scale can be applied by specifying a supplementary dial reading to 300 pounds. The unit has been designed to apply a load slowly and to stop at any instant in testing materials such as adhesives, fabrics, paper, rubber, springs, wood, wire. Accuracy is guaranteed within 0.5 per cent of scale reading.

A pendulum in the weighing mechanism travels along a quadrant carrying ratchet teeth. These teeth engage pawls on the pendulum arm to hold position when a specimen fails. Load is then read on the dial. Elongation is read on a scale on one of the upright columns.

Four grip clearances are 14¾, 24, 36 and 48 inches. Overall height is 64 in. and weight is 170 pounds. Tests can be made in compression, bending and shear as well as tension. Standard equipment includes a set of grips for flat specimens to ⅛ in. in thickness by 1¼ in. in width.

If you write maker identify as IEN - 11676

GAGE . . Indicator and holder for gage block setups to 72 inches

Source: DOALL CO.
252-56 N. Laurel Ave., Des Plaines, Ill.

Resembles a stick of type

Micro-Set designates new gaging equipment to be employed with precision gage blocks to make length measuring setups maximum at 72 inches. The set-ups can be altered in steps as small as 0.000025 inch. A dial indicator is used with the holder and end standards.

A complete assembly of components for the gage include 5 and 10-in. sine plates and a book containing height combination tables and heat expansion calculations. Here the gage blocks are listed for combinations to form 10,000 different dimensions. Corrections are given to check non-steel work pieces at temperatures above or below the normal 68 deg. F.

Identify as IEN - 11677

Need a turret lathe or two for quick delivery? Pitman Industrial Products can supply you a CMC No. 34½ machine with a 4½-in. collet capacity. It is being made in Canada. Specifications are available on request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11678

ONE . . Good Way TO SAVE PRODUCTION TIME

KESTER SOLDERFORMS

For Soldering with flame, carbon-resistance, oven, induction and conventional iron

DIMENSIONAL STABILITY Every single Kester Solderform is made exactly to specification. What's more . . . they are delivered that way to you, in perfect condition, because of Kester's scientific packaging.

Write for sample assortment or test samples for your specific job.

KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39
Newark 5, New Jersey • Brantford, Canada

KESTER SOLDER

If you write maker identify as IEN - 11679

SUB-MINIATURE CANNON PLUGS

tiny but *rugged*

Series D—the new sub-miniature Cannon Plugs bar 15 contacts for #20 or #22 AWG stranded wire. Others in the series have 25, 37 and 50 contacts. These new plugs meet a long felt need of the Electronics industry for a sturdy, versatile, and extremely compact connector for use on miniaturized equipment of all kinds. Junction shells make them useable as (1) rack and panel (2) box (3) wall, or (4) cord connectors.

Contacts are machined from copper base alloy, gold plated, rated 5a. High dielectric insulators. Minimum flashover 1000 v. rms. Write for bulletin D-1.

CANNON ELECTRIC

SINCE 1925—Factories in Los Angeles, Toronto, New Haven, Benton Harbor. Representatives in principal cities. Address inquiries to Cannon Electric Company, Dept. H-122, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif.

If you write maker identify as IEN - 11680

We'll make this MANZEL FLOOR CRANE to meet *Your* handling needs

The heaviest, bulkiest, clumsiest loads are easily transferred from place to place, by *one* man guiding this Portable Hydraulic Crane. It steers accurately through tight spaces and rides safely over any surface. Let Manzel engineer one to *your* requirements. For information write . . .

Manzel

242 BABCOCK STREET
BUFFALO 10, N. Y.

If you write maker identify as IEN - 11681

Depend on AUTO-LITE

FOR TEMPERATURE INDICATION

Model G Thermometer (one-to-one ratio, liquid filled type) Priced from $18.

Model V Thermometer (vapor pressure type) Priced from $10.25.

Auto-Lite Indicating Thermometers are available in many types and sizes, with a choice of temperature ranges and mountings to meet your needs. Send for catalog.

THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION • TOLEDO 1, OHIO
NEW YORK CHICAGO SARNIA, ONTARIO

AUTO-LITE
INDICATING & RECORDING THERMOMETERS

If you write maker identify as IEN - 11682

HERE'S A FORK TRUCK

that will really reduce your handling costs

A factual comparison of types and makes will show that Lewis-Shepard Spacemaster Electric Fork Trucks give you more of the features you want, the quality and dependability you need, and the savings you expect.

1. *Operate in less space* — compact design and smaller turning radius.
2. *Greater speed*—more powerful traction motor, faster lift motor.
3. *Safer reverse operation*—Standrive gives operator complete control in reverse.
4. *Smoother, timed acceleration* — no jerks . . . smoother deceleration too. Deadman brake for extra safety.
5. *No grease points* — and absolutely no under truck adjustments.

TO HELP YOU BASE YOUR DECISION ON FACTS

Get this handy "Fork Truck Comparison Chart". It lists buying "guides" . . . permits you to make your own unbiased comparison. Write for it.

LEWIS-SHEPARD Products, Inc.
133 Walnut St., Watertown 72, Mass.

Nation-wide Service — See "Trucks, Industrial" in your Yellow Phone Book

If you write maker identify as IEN - 11683

You can't beat a soldered connection

for electrical conductivity and permanence!

SOLDERED connections eliminate loss of current, fire hazard, radio interference and excess heat which result from loose, corroded, arcing NON-SOLDERED connections.

For over 50 years experts have specified American Beauty Electric Soldering Irons. They know American Beauty Irons are built to LAST LONGER, OPERATE DEPENDABLY and BE SERVICED QUICKLY.

Build better with solder . . . . Solder better with

American Beauty
SOLDERING IRONS

• WRITE FOR FREE LITERATURE

Dependable • Durable • Efficient

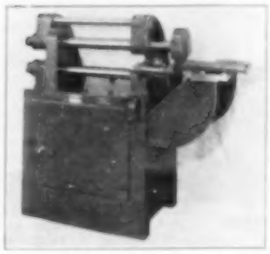
SINCE 1894

AMERICAN ELECTRICAL HEATER COMPANY
DETROIT 2, MICHIGAN 4-100

If you write maker identify as IEN - 11685

SHEARING . . Wire cutting machine opens coil then cuts measured lengths

Source: CARLSON TOOL & MACHINE CO.
823-27 W. State St., Dept. B, Geneva, Ill.



Teeth promote cutting

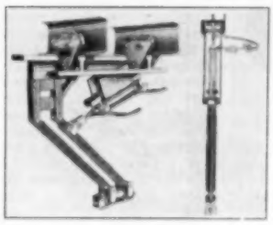
Model 51 is a new wheel-type shear in which two 8-in. serrated tooth tool steel cutter wheels overlap each other about ¼ in. at the ends of two 3-in. motor driven shafts. Drive is by gear connection at the left hand end of the machine. The shear wheels ride at the right hand end, to the left of a wire feed tube. Drive is by a 3-hp. 3-phase 60-cycle ac. motor with a geared head. Overall dimensions are 62 by 30 by 57 inches.

The operator picks up a coil of hard black tempered wire, like that used in brush manufacture. The coil measures 12 to 16 in. in diameter. He inserts it by hand between the shear wheels to make a single cut through it and thus produce a hank of wire about 48 in. in length. He separates this hank into smaller ones, about 1 in. in diameter, and inserts them through the feed tube to ride against an adjustable length stop. He then moves the tube to carry the wire between the wheels. He repeats until the hank has been cut up. The machine will cut wire to 18 gage in the 1-in. hanks. Ball bearings take shearing thrust. Shafts ride in Oilite bearings.

If you write maker identify as IEN - 11686

MARKING . . Pneumatic equipment with remote control for hot billets

Source: M. E. CUNNINGHAM CO.
1039 Chateau St., Pittsburgh 33, Pa.



For steel mill use

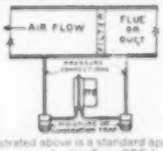
Model 601, to the left, and Model 701, to the right, are new designs in the company's lines of pneumatic marking equipment for application on hot billets so the operator can remain at a safe comfortable distance from the work. Model 601 stamps sheared steel billets or ingots on either the ends or sides. It can be equipped with a holder for any size or number of characters and acts to level the lettering on the billet. Operation is on 80 to 100-lb. pneumatic pressure.

Model 701 is designed to stamp on the ends of 4 by 4-in. and larger billets. It applies where space is not sufficient for operation of the usual type of marker in horizontal position. The marking head is mounted on parallel arms suspended from an overhead trolley which is located above a billet conveyor to stamp the billets as soon as they have passed through a shear. The quick-change type holder can be made for one or more lines of letters or characters. It is mounted to center the characters on rough sheared ends.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11687

CONTROL FROM MINUTE CHANGES IN THE RELATIONSHIP OF TWO PRESSURES



Illustrated above is a standard application whereby the Type PPQ functions to open (or close) an electrical circuit from a variation in pressure differential due to a clogging filter.

Mercoid Type PPQ Diaphragm Differential Pressure Controls operate from minute changes (.03" water) in the difference between two pressures.

Ranges to cover most applications (inches of water) 6" vacuum to 6" pressure, and 30" vacuum to 30" pressure. Available for various circuit arrangements.

Electrical Capacity—0.3Amp. at 115V., A.C. or 0.15 Amp., at 230V., D.C. Can be furnished in explosion-proof or weather-proof cases.

WRITE FOR BULLETIN CA-3P

THE MERCOID CORPORATION
4205 W. BELMONT AVENUE, CHICAGO 41, ILLINOIS
New York: 205 East 42nd St. Philadelphia: 3137 N. Broad St.

If you write maker identify as IEN - 11688

S.S.WHITE *Elastoplastic*

PLUGS and CAPS

Slipped into or over the ends of plain tubing, these plugs and caps protect the ends and keep out dirt and moisture.

Made of flexible Vinylite plastic, they are resistant to most oils, offer high electrical insulation, and are easily applied and stay put. For details

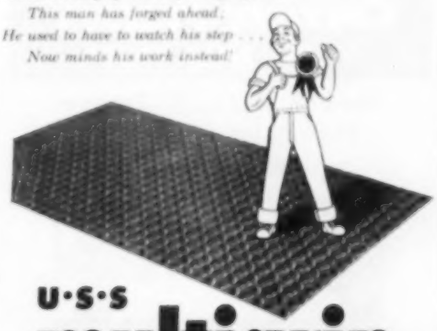
WRITE FOR BULLETIN P-5107

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN - 11689

'Cause Multigrip makes footing safe
This man has forged ahead;
He used to have to watch his step . . .
Now minds his work instead!



U·S·S multigrip FLOOR PLATE

UNITED STATES STEEL COMPANY, PITTSBURGH
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, CHICAGO
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Sold by leading distributors from coast to coast 2-1421

UNITED STATES STEEL

If you write maker identify as IEN - 11690

EDWARDS SIGNALING EQUIPMENT

. . . via Graybar

Edwards equipment offers easy maintenance . . . trouble-free service

Adaptabels. Simple and quick to install, the Edwards Adaptabel features a handy rear mounting plate to which all electrical connections are made. Mounted directly on walls, switch boxes, or outlet boxes, the entire installation can be tested and completed before painting and finishing. Later, it's an easy, non-electrical job to snap the desired Adaptabel into place over the mounting plate. Graybar-distributed Adaptabels are available in vibrating or single-stroke types for all A.C. and D.C. voltages . . . in sizes from 4" to 10".

Buzzers, horns, sirens and accessories. Graybar distributes the complete line of Edwards signaling equipment. All Underwriters' listed, you can get an Edwards system to meet any signaling requirement. Check with your local Graybar Representative, he'll be glad to furnish complete information. *Graybar Electric Co., Inc. Executive Offices: Graybar Building, 420 Lexington Avenue, New York 17, N. Y.* 43-1250

Call Graybar *first* for . . . Everything Electrical GraybaR

If you write maker identify as IEN - 11691

INDUSTRY HAS NEVER SEEN ANYTHING LIKE IT!

Characteristics And Recommended Usage For Natural And Synthetic Rubber Polymers, And Complete Design Data On Mechanical Rubber Specialties!

LAVELLE Rubber Company

1811 WEST HUBBARD STREET • CHICAGO 22, ILLINOIS

If you write maker identify as IEN - 11692

Convince Yourself WITH THIS TEST!

See How VOLAX Removes Printing Ink COMPLETELY without Irritating Skin!

1. Ask a pressman to dip his hands in printing ink — it's stubborn . . . hard to remove.

2. Have him use VOLAX Hand Cleaner—ink's off in a jiffy—and safely too!

Your DOLGE Service Man will be glad to demonstrate

VOLAX is designed for heavy-duty skin cleansing. It contains mild soaps, water softener and friable volcanic ash . . . removes ground-in printer's ink with a gentle non-irritating action. VOLAX is the specific cleaner for tough, ground-in dirt and ink discoloration.

VOLAX

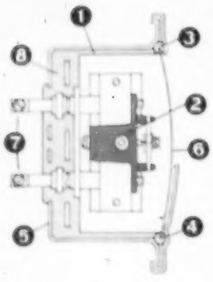
dependable DOLGE

WESTPORT, CONNECTICUT

If you write maker identify as IEN - 11693

Available NOW! RUGGEDIZED METERS

to meet Sig. C. Spec. MIL-M-10304



8 PLUS Features

Extra "Ruggedized" Features

1. Movement is rubber mounted and housed in rubber-lined case.
2. Movement supported by die-cast arm for straight and accurate.
3. Glass rubber-connected and sealed to rubber lining of case.
4. Non-rigid mounting of glass increases resistance to shock.
5. Each meter individually built to high and quality standards.

Extra Installation Advantages

6. Slight curvature of glass reduces glare of possible breakage.
7. Terminals tapped and provided with wing screws to facilitate wiring.
8. Damage to wiring reduced by non-rigid mounting of terminals and flexible conductors.

Building rugged electric meters is not new to SUN . . . For over 20 years the automotive industry has depended on SUN as one of the largest "D'Arsonval type" meter manufacturers—to produce rugged, tough meters for portable field measurements. SUN "Ruggedized" Meters not only meet Specification MIL-M-10304 (Sig.C.) . . . but also embody many new features that make installation easier and faster. "Ruggedized" Meter Data Bulletin on request.

SUN "Ruggedized" Meters are available at D.C. Volt Meters, Ammeters, Milliammeters and Micro-ammeters and also may be ordered as rectifier type A.C. instruments.

SUN ELECTRIC CORPORATION

6187 Avondale Avenue, Chicago 31, Illinois

If you write maker identify as IEN - 11694

METER . . AC. volt-ammeter opens for application around conductor

Source: GENERAL ELECTRIC CO. Dept. 6X-201, Schenectady 5, N. Y.

Accurate to 1 per cent

Five ranges are maximum at 7.5 to 750 amp. in this new design of the company's Type AK-1A volt-ammeter. Three ranges are maximum at 150 to 750 volts. Current is read by hooking the instrument around a conductor, either insulated or bare, and setting a range selector. Voltage is measured by connecting the instrumental terminals to the line and setting the selector.

A pointer stop mechanism has been added to determine peaks in motor starting currents. A dovetail joint on the instrument's magnetic jaws minimizes error caused by imperfect closing. The "hook-on" portion of the instrument is a split core transformer with its secondary winding tapped for the different ratings and connected to a rectifier through the range selector. The instrument is shielded magnetically.

If you write maker identify as IEN - 11695

COMMUNICATING . . Loudspeaker, explosion proof for hazardous places

Source: RADIO CORP. OF AMERICA 1941 Front & Cooper Sts., Camden 2, N. J.

Noise without sparks

Tortuous path for the sound between the speaker diaphragm and the horn is provided in the housing of this new Type MI-12425 explosion proof speaker. The path extinguishes any flame generated within the mechanism before it reaches the horn or the outside atmosphere. The housing fits any of the company's standard horns and takes several diaphragm type speaker mechanisms.

It is approved by Underwriters' Laboratories, Inc., and is sufficiently strong to withstand an internal gas explosion. The housing is made of cast aluminum equipped with a nickel plated brass ferrule. Overall dimensions are 8 in. in diameter by 7⅝ in. in height. Weight is 5¼ pounds.

Identify as IEN - 11696

Air is sampled continuously at six intake points around the top seal of a waterless gas holder in an installation of Mine Safety signaling equipment. The samples are employed in connection with a sensitized platinum filament bridge circuit to close circuits to audible and visual signaling equipment if gas concentration in the samples exceeds a predetermined amount. It shows the leak location, enables a maintenance crew to take prompt action in fixing it.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11697

SPEED PRODUCTION • CUT COSTS ELIMINATE SHRINKAGE...

Resistance Spot Welding & Soldering Machines

Models 1000 WV, 2000 WV & 5000 WV—AC only

For hard soldering, soft soldering and spot welding precious and dissimilar metals. Spot welds steel parts up to 3/16 of an inch thick; welds brass up to .080"; solders brass up to ¼ of an inch. Has myriad applications in small metal parts production.

Write for catalog of complete line.

JOYAL PRODUCTS, INC. 568 BELMONT AVENUE NEWARK 3, N. J.

If you write maker identify as IEN - 11698

EQUIPMENT LASTS LONGER ...PERFORMS BETTER... when the ARIDIFIER

SCRUBS, CLEANS AND DRIES On Air and Gas Lines

LASTS LONGER because . . .
The Aridifier's patented centrifugal-baffle action traps 92% of all dirt, oil, scale and water in gas or compressed air . . . and drains off these troublemakers *before* they can damage tools and equipment.

PERFORMS BETTER because . . .
The Aridifier protects tools against the freezing, fouling, caking and corrosion caused by dirt and foreign matter . . . assures the clean, dry air and gas that means better spray work, painting, lacquering, sand blasting, air cleaning, and similar operations. .

Easily installed, the Aridifier maintains itself. 10 models. Capacity range; 7 CFM to 17,000 CFM.

Learn HOW the Aridifier scrubs with a patented centrifugal-baffle action.

Write for This Catalog Now!

Logan ENGINEERING CO.

4902 W. Lawrence Ave., Chicago 30, Ill.

If you write maker identify as IEN - 11699

If you write maker identify as IEN - 11700

step up production with STOW flexible shaft MACHINES

Stow STREAMLINER N-40

3-SPEED JIFFY SJ-38

These dependable STOW FLEXIBLE SHAFT MACHINES save production time . . . speed up output . . . help lower production costs. Variable Speed Models shown are easily portable . . . cut down operator fatigue and increase on the job efficiency!

Constant Speed Models available. Also complete line of accessories designed to increase the utility of STOW Flexible Shaft Machines!

WRITE TODAY

for your free copy of CATALOG 51

STOW MANUFACTURING CO.

25 Shear St. Binghamton, N. Y.

If you write maker identify as IEN-11701

SPARTAN TRUCKS

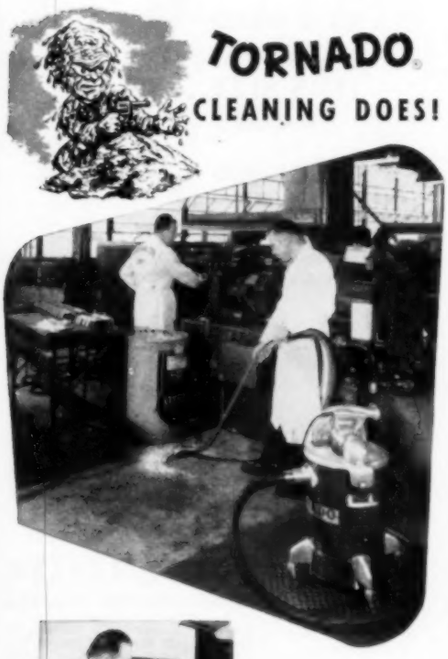
Tough, light C-D-F Fibre sides make SPARTAN trucks first with materials handling experts. *Fibre* resists moisture, oil and grease; stays smooth! SPARTAN trucks have heavy oak bottoms with iron kick-bands; your choice of modern casters; rust-resistant metal top rims and side bands. Nothing to catch, corrode, snag, splinter.

C-D-F also makes Fibre trays, tote boxes, cans, barrels. Low-cost receptacles for every industry. Write for complete Catalog R-52, call your C-D-F sales engineer. (Textile mills: contact C-D-F Spartanburg, S. C.).

Continental-Diamond Fibre Company
NEWARK 21, DELAWARE

If you write maker identify as IEN-11702

DIRT DOESN'T PAY DIVIDENDS



Motor unit becomes powerful blower to clean motors, machinery and equipment.

Dirt may be cutting into your profits just like this case of the *Federal Tool Corporation*. Molding light colored plastic, they found that a single particle of dirt in a cavity meant scrapping the entire piece.

These costly scrap losses had to be stopped. How? With more efficient cleaning methods. Now they're using Tornado cleaning with the machine that pulls air at 300 M.P.H.

What's more, it picks up water, oils, scrubbing solutions and metal chips just as easily as dirt. It quickly converts to a blower or shoulder-type vacuum . . . cleans everything from floor to ceiling.

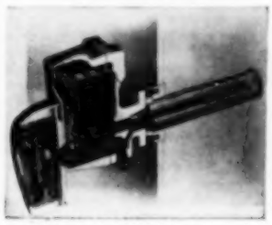
If you want to stop dirt from sharing in your plant profits write for Bulletin 600 today.

BREUER ELECTRIC MFG. CO
5108 NORTH RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

If you write maker identify as IEN-11704

THERMOSTAT . . For a transformer, indicates and guards against overload

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., Dept. IEN, Room 1110, Pittsburgh 30, Pa.



Circuit acts on overload

New design of the Type-TRO thermostatic overload relay for a power transformer is now equipped with an indicating dial. Calibration is in "per cent thermal load" which requires no interpretation in terms of time temperature limits under any ambient temperature. The control circuit acts as 110 per cent to operate equipment that will take the transformer off the line.

The dial pointer is actuated by gearing from the operating shaft so deflection is directly proportional to angular movement of the spiral bi-metal element. The new unit is interchangeable mechanically and electrically with previous designs by the company but the dial cannot be attached to relays now in service.

If you write maker identify as IEN-11705

CLEANING . . Conditioning material for electrocleaning zinc die castings

Source: OAKITE PRODUCTS INC.
116-A Rector St., New York 6, N. Y.

Technical data upon request

Composition No. 95 is a new reverse current conditioning material for use on zinc die castings in preparation for plating. The material acts to remove surface film, disturbed metal and the last traces of soil on the castings. It avoids hydrogen gas formations to prevent plate blistering. Anodic conditioning with the composition removes films that might impair the brightness of subsequent electroplate without etching the work in a way that would produce under-surface shadows. The material rinses freely. No residue film remains on the castings to interfere with processing.

If you write maker identify as IEN-11706

PACKAGING . . Heat sealing machine also secures labels on filled bags

Source: MERCURY HEAT SEALING EQUIPMENT CO.
329-33 N. 11th St., Philadelphia 7, Pa.

Model VLS-12

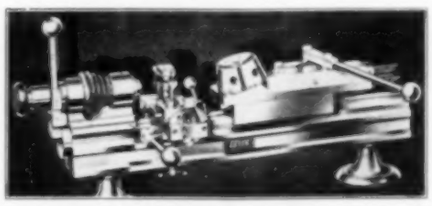
Vacumatic trade names a new heat sealing and labeling machine. It feeds labels by vacuum from a magazine above the sealing jaws, folds the label, places it on a bag positioned by the operator and then seals bag and label in one operation. The machine can be set to fold and position the label as required. The magazine is adjustable for labels of various sizes. Vacuum is supplied by motor driven equipment in the machine base.

The sealing bars are electrically heated and measure 1½ in. in width by 12 in. in length. They are available for crimp or smooth sealing. Date coding, trade mark and hole punch dies can be specified. The machine operates on 110 or 220-volt ac. No lubrication is required.

If you write maker identify as IEN-11707

LATHE . . Bench type turret unit for small work, has an 18 inch bed

Source: LOUIS LEVIN & SON INC.
780-84 E. Pico Blvd., Los Angeles 21, Calif.



Particularly for instrument parts

Collet capacities are $\frac{1}{16}$ and $\frac{3}{16}$ in. in two sizes of this new bench type turret lathe. The machine mounts a 6-position hand operated turret, a lever operated collet closer, a double tool cross slide with a swivel compound slide. The spindle is equipped with a step type V-belt sheave for connection to a driving motor. Tool openings in the turret measure ½ in. in diameter. The turret slide is made of hardened steel.

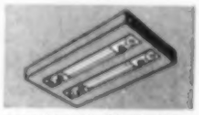
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11708

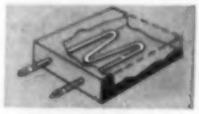
G-E CALROD* HEATERS GIVE DEPENDABLE SURFACE HEATING

When you need dependable heating for platens, cylinders, dies, rolls—or any surface heating application—use an easy-to-install G-E heater. Use Calrod heaters for clamping on, wrapping around or spacing away from surfaces, locating in grooves, or drilled holes and casting into metal. They come in the widest range of standard sizes, ratings and sheath materials to meet almost any conceivable heating requirement.

For a "spot" of heat, insert cartridge heaters into holes.



For a "zone" of heat, clamp on strip or tubular heaters, or



cast dependable Calrod heaters permanently into metals.

FOR FREE BULLETINS

Get complete catalog of heaters and devices, GEC-1005, and "Heating Surfaces," GEA-5097, from your nearby G-E Sales Office or write: Sect. 720-76, General Electric Co., Schenectady, N. Y.

* Registered Trademark

GENERAL ELECTRIC

If you write maker identify as IEN-11709

PROBLEM:

How to Reduce the High Cost of Platinum in an Electrode?

GENERAL PLATE

Provided the Solution with Platinum Clad to Copper . . . A Composite Metal.

A well known manufacturer was faced with the problem of how to cut the cost of a platinum electrode. Pure platinum was ideal but was expensive and the supply short.

The problem was presented to General Plate whose engineers quickly found a solution by bonding a thin layer of platinum to a thicker, less costly layer of copper.

The result was a General Plate composite material that gave the performance of pure platinum, and reduced costs considerably.

In addition, General Plate was able to fabricate the complete assembly providing the manufacturer with further savings.

No matter what your problem, it will pay you to consult with General Plate. Their vast experience in cladding precious to base metals, or base to base metals can overcome your problems . . . often reduce costs.

GENERAL PLATE
Division of Metals & Controls Corp.
710 Forest St., Attleboro, Mass.

If you write maker identify as IEN-11710

Sub-Contract Service

ON DEFENSE OR CIVILIAN WORK

We are equipped to handle volume production of your defense or civilian work. Check your needs against these services and facilities:

STAMPINGS — Over 80 presses up to 125-ton capacity — blank and draw presses included. We furnish dies on request, handle complete job for you.

ROLLED SHAPES — 10 rolling machines for simple or intricate rolled shapes. Greene rolled forms are used by leading firms the world over.

PLATING — Nickel, chrome, cadmium, brass, bronze and zinc.

POLISHING & BUFFING—Hand and automatic equipment.

PAINTING — Spray and dip — air or oven drying — Bonderizing.

ASSEMBLIES — Spot welded, screw fastened, etc. Screw machine sources available for combinations of turned and stamped parts.

G-10a

PROMPT QUOTATIONS. Send blueprints or ask to have representative call.

Greene of Racine
GREENE Manufacturing Company, Inc., Racine, Wis.

If you write maker identify as IEN-11711

MERRILL MATERIALS HANDLING DEVICES

MERRILL BROTHERS
56-14 ARNOLD AVENUE MASPETH, N. Y.

If you write maker identify as IEN-11712

How Much Is Washroom Maintenance Costing YOU?

Provide AUTOMATIC 24-Hr. Service. Take a practical look at your own washrooms . . . the expense of towels required over a year . . . janitor time required to fill empty towel cabinets and empty waste containers . . . clean up towel litter. At best, towel service is as good as its maintenance . . . and that maintenance is an overhead expense costing you money!

New Sani-Driers eliminate ALL this needless expense! They provide fast, efficient hand or hair drying service 'round the clock . . . *quickly pay for themselves out of savings!* Approved by Underwriter's Laboratories.

Write for new illustrated literature! Semi-recessed model shown above. Wall and pedestal models also available.

Distributors In All Principal Cities

THE CHICAGO HARDWARE FOUNDRY CO.
"Dependable Since 1897"
34102 Commonwealth Avenue
NORTH CHICAGO, ILLINOIS

If you write maker identify as IEN-11713

Now... Get EXACTLY the drill you need!

No longer must you compromise on drills that are "almost" right for your work. 54 separate and distinct PET Superduty Drill models allow you to choose the *exact* drill characteristics you need . . . for more efficient work and longer drill life.

Quality? There isn't a finer drill made! Each PET Superduty Drill has vibration-free, dynamically balanced armatures; precision-cut gears; ample reserve power; big, heavy-duty bearings; forced ventilation. These are *standard* features—not "optionals" that build up the cost. And, *the price is lower than you think!*

Get all the facts! For free catalog and name of your PET Distributor, write today to Dept. IE-102

PORTABLE ELECTRIC TOOLS, INC.
320 West 83rd Street, Chicago 20, Illinois
In Canada: Portable Electric Tools, Ltd., Toronto, Ontario

If you write maker identify as IEN-11714

GAGE . . Pressure transmitter isolates gage from corrosive fluids

Source: TRANS-SONICS INC.
852 Bedford Airport, Bedford, Mass.

Burst proof

Isolator Type 40 designates this new diaphragm equipped pressure transmitter. It is designed for application between a line carrying a corrosive liquid or gas and a liquid-filled pressure gage. The Kel-F diaphragm separates the pressure fluid and the gage to protect the latter against corrosion so standard pressure gages can be employed.

Three units in the line are threaded on both sides of the diaphragm for ¼-in. pipe. Two are made of aluminum with the diaphragm displacement at 0.1 and 0.3 cubic inch. The third is made of stainless steel with 0.1 cu. in. displacement. All three rate to 1,000 pounds. The diaphragm will bottom on the housing in the event of failure on either side and will not extrude into the line. The aluminum assemblies measure 2½ and 3⅞ in. in diameter by 1 and 1½ in. between the outer faces. The flange on the gage side is equipped with a plugged filler hole. The stainless steel assembly is 2½ in. in diameter by 1 in. between faces.

If you write maker identify as IEN-11715

SIGNALING . . Metal sign for warning, identifying, directing

Source: EASTERN METAL OF ELMIRA
128-32 Harrison St., Elmira Heights 3, N. Y.

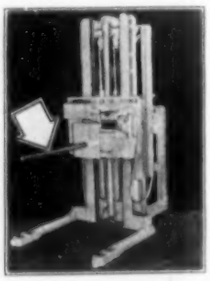
The sign can swing

New size measuring 38 in. in height has been added to the company's angle stand, previously described IEN-4064-52. It holds two warning flags and is designed so it will not blow over in a heavy wind or in backwash of passing traffic when the unit is employed on a highway. Eight legends for warning and directing purposes are available. The steel signs are sprayed with baking enamel. The legends are silk screened and can be reflectorized.

If you write maker identify as IEN-11716

TRUCK . . Ram attachment for straddle type power lift truck

Source: RAYMOND CORP.
3598 Madison St., Greene, N. Y.



Clears in 6 foot aisle

Steel coils, loads having a center opening, can be handled on the new ram attachment developed by the company for its straddle type electric tiering truck. The ram moves to 3 in. on either side of the truck's mast center to assist in alignment when picking up or dropping a load. The truck will raise the mast to 130 in. above the floor. Controls for raising, lowering, side shifting and travel all center at the operator's position at the rear of the truck.

If you write maker identify as IEN-11717

DRIVE . . Variable speed unit, ac. motor and V-belt transmission

Source: U. S. ELECTRICAL MOTORS INC.
Box 2058-A, Los Angeles 54, Calif.

Ready to install

Remote control for manual operation and a connecting flexible shaft to 5 ft. in standard length has been added to the company's Type 5-VA fractional horsepower variable speed drive. The ac. motor is available for standard electrical specifications and in ratings of ¼ to ¾ hp. Speed ratio of the variable pitch sheave transmission is in a ratio of 10 to 1 with an overall range between 4 and 10,000 rpm. The remote control is equipped with a dial to indicate ratio setting. A longer connecting shaft than the standard 5-ft. unit can be specified.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11718

Darnell Casters

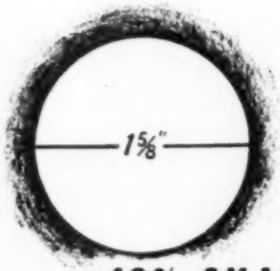
Always SWIVEL and ROLL

DARNELL CORPORATION, LTD.
DOWNEY, (Los Angeles County) CALIF.

60 Walker Street, New York 13, N.Y.
36 North Clinton, Chicago 6, Illinois

If you write maker identify as IEN-11719

YOU NEED ONLY THIS SIZE SPACE FOR STERLING INDICATING METERS



40% SMALLER THAN FORMER MODELS

Typical of Sterling's ability to produce just the right meter for your needs at moderate cost is this new small unit for A-C or D-C service. Available in ranges of 1 to 50 V, 1 to 30 amp, and 10 to 1,000 milliamperes—with high readability and accuracy. In dull, black, wrinkle or nickle finishes. Write today for complete facts.

Send for a Sterling catalog today — a complete line of meters for the electronic and automotive field.

STERLING
MANUFACTURING COMPANY
7201 WENTWORTH AVENUE
CLEVELAND 2, OHIO

If you write maker identify as IEN-11721

AUTOMATIC 3 ACTION

numbering machine

MODEL 150

3 movements — consecutive, duplicate, repeat. Triplicate or quadruplicate available in place of duplicate. Prefix letter wheels available in place of figures. Clear-cut figures, 6 wheels.

Write for catalog E

345678

Facsimile Impression

WM. A. FORCE
& COMPANY, INCORPORATED
216 NICHOLS AVE., BROOKLYN 8, N. Y.
Sales Offices: New York, Chicago, San Francisco, Montreal

If you write maker identify as IEN-11722

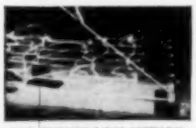
Invests $150.00
Saves $2100.00
with this remarkable PARKER floor sweeper

Report from Plant X indicates way you can make substantial savings on YOUR floors

"Comparative studies on 71,256 sq. ft. of storage and shipping space yield clean-up times of eight hours against sixteen hours by the former method. In areas formerly swept by the pushbroom method the Parker sweeper yields still greater savings, some as high as 76%. An estimated $2,100 per year after taxes will be saved."

A Parker sweeper saves money, saves manpower *in any size plant* from large factory to small garage. Sweeps all type floors. Collects and sweeps in one operation. Easy to empty. *Write for full details.*

HERE'S WHY YOU SAVE FROM $10 TO $50 A WEEK



OLD PUSHBROOM METHOD
A flashlight mounted on a pushbroom vividly describes what happens when a workman uses a pushbroom. Time exposure shows change of direction. And the dirt must still be picked up.

PARKER SWEEPER METHOD
Continuous lines of light indicate continuous sweeping. Result: many more times the floor space swept in an hour's time. Furthermore, the dirt has been collected at the same time.

PARKER
INDUSTRIAL FLOOR SWEEPERS
Parker Sweeper Co.
36 Bechtle Ave., Springfield, Ohio

Motorized Model Parker Sweeper with 1 h.p. 4 cycle engine available for extra large, unobstructed areas.

If you write maker identify as IEN-11724

HEATING . . Electric furnace has 10 by 6 by 18 in. work chamber

Source: COOLEY ELECTRIC MFG. CORP.
905 Daly St., Indianapolis 2, Ind.

Door lifts vertically

Model VK-7 is a new box type furnace to heat treat tools and dies for laboratory operations requiring a temperature range between 300 and 2,000 deg. F. It is a companion and somewhat larger unit to the Type VK-6, previously described IEN-11574-48. Complete equipment includes a wired and integrally mounted control panel carrying a pyrometer, controller, a fused line switch and instrument fuses.

Heat is supplied by the company's embedded element design in which the element wire is protected against atmospheric attack as well as mechanical breakage. The elements rate 6.5 kw. with operation on 220-volt single phase ac. They are located on all four sides of the chamber and in the door.

If you write maker identify as IEN-11725

PLASTIC . . Vinylite spray liquid to protect and decorate any surface

Source: PROGRESSIVE INDUSTRIES INC.
48-10 Van Dam St., Long Island City 1, N. Y.

Technical data upon request

Plastispray trade names a process involving the use of liquid Vinylite plastic for spray application on building exteriors and interiors and on equipment. The company is prepared to license application of this process for use on roofs, walls, canopies, floors, ceilings in any thickness from 5 mils to ⅛ inch. The process itself is a further development of "operation moth ball" employed for protective storage of government equipment.

The coating has a webbing characteristic that enables spray application to bridge or web over gaps to 24 in. in width. The finished film is tough, washable and resistant to attack by moisture, mildew, oils, fats, grease, ink, salt spray and most chemicals. It also is resistant to abrasion and scuffing.

Application can be made on wood, stucco, brick, cinder block, concrete, metal. The completed film follows the movement of a structure without rupturing. Any color can be specified.

If you write maker identify as IEN-11726

PROTECTING . . Dynel fabric shirts, trousers, coveralls, laboratory coats

Source: AMERICAN ALLSAFE CO.
1243-47 Niagara St., Buffalo 13, N. Y.

For neat protection

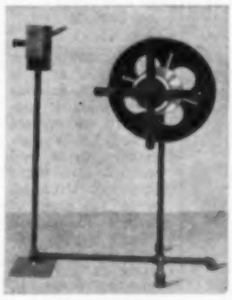
Matching shirts and work trousers, coveralls and laboratory work coats are included in a new line of Dynel work clothing suitable for worker protection in the plant and equally acceptable for street wear.

Application is particularly in chemical plants, canning factories, dairies, oil refineries, plants where acids, oils or chemicals are handled. The garments are sewed with thread that has the same chemical resistance as the fabric.

If you write maker identify as IEN-11727

DISPENSING . . Counter and reel to measure and coil rope, wire, tubes

Source: HYKON MFG. CO.
167 E. State St., Alliance, Ohio



About $44

A counter that registers to 1,000 ft. and can be quickly reset to zero and a hand operated take-up reel with a tapered cone and capacity to hold 1,500 ft. of No. 14 wire are mounted on a pipe structure in this new dispensing equipment. It represents further development of the similar equipment previously described IEN-9458-51. The counter will take flexible material to 1 in. in diameter. Reel dimensions are 18¾ in. in diameter by 7 in. in width. The outer spokes are held by a pair of brackets from which they can be removed to free the coil.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11728

Streak-Free Finishing of Plastic Surfaces

PROBLEM: Plastic counter tops normally come from the press with a mirror finish. However, customers prefer a streak-free satin finish. This necessitates a "dulling" process. How can it be performed at least cost?

ANSWER: Fuller developed the widely used buffing operation. Special brush assemblies, designed with spiralled *Fullergript* brush strips, remove the gloss . . . also assure uniform color and texture without streaking.

ARE STREAKS GETTING IN YOUR HAIR? We can't help those on your head, but we can help streaks in the product you are finishing. Just send us 6 samples for our laboratory, plus one indicative of finish required, not over 12" wide, please. Our research facilities are at your disposal.

Industrial Fuller Division
3583 MAIN STREET HARTFORD 2, CONN

Fullergript, Wet and Dry Mops, Brooms, Floor and Special Brushes.

If you write maker identify as IEN-11729

Warplane Radio

Radio Diathermy

Relays BY GUARDIAN

T-100 Laminated Time Delay Relay

In equipment that guides warplanes in flight or conditions personnel with radio diathermy—"Relays by Guardian" are most popular control units. For example, radio diathermy machines usually employ a time delay relay such as the Guardian T-100 to "warm up" the filaments of oscillator type tubes. The time delay is adjustable between 10 and 60 seconds; contact capacity is 1500 watts on 110 v., 60 cycles non-inductive A.C. Power Consumption of coil and time delay during closing of thermostat blade is approximately 10 VA and after closing, 5.5 VA. Consult Guardian wherever automatic control is desired for making, breaking, or changing the characteristics of electrical circuits.

GUARDIAN ELECTRIC
1620-L W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVICE AMERICAN INDUSTRY

If you write maker identify as IEN-11730

GET UP TO 50% MORE PIECES
from punches and dies made with . . .
Starrett No. 497
AIR HARDENING
PRECISION GROUND DIE STOCK

5% chromium content plus a special analysis to insure good hardening properties makes it highly wear resistant — ideal for long run production dies and punches and for stamping silicon, stainless steel, Monel and other abrasive materials. It's non-deforming — no distortion, no cracking, no costly rejects, less finish grinding. And it's fully spheroidized annealed for easy machining with a wide hardening range for foolproof heat treating. Available in 36" lengths in a wide variety of widths and thicknesses.

Write for new FOLDER and WALL CHART listing all sizes and formulas for air, oil and water hardening types. Address Dept. "N".

Starrett
THE L. S. STARRETT COMPANY
Athol, Massachusetts, U.S.A.

If you write maker identify as IEN - 11731

Investigate the Advantages of H & K PERFORATIONS

— for cleaning, grading, straining and filtering . . . guarding and ventilating . . . acoustical treatment . . . ornamental enclosure, and related problems of product and machine design.

You have a wide selection of patterns to choose from, all accurately perforated.

For commercial processing, perforations may be had with as close as ±.0005". Materials include practically all metals and sheet materials such as plastics, fabrikoids, plywood, etc.

Ornamental grilles — modern and classical patterns — are perforated in any currently available metal — finely finished.

Perforated sheets may be furnished rolled, formed, sheared, welded, brazed or otherwise fabricated to your specifications.

Catalog No. 42 tells the "Rule" story — write for it!

The Harrington & King Perforating Co.

5637 Fillmore Street, Chicago 44, Illinois
114 Liberty Street, New York 6, New York

If you write maker identify as IEN - 11732

DUNHAM FIN-VECTOR RADIATION

Heats "just right" at *any* height

Any height above four inches from the floor is "just right" with Dunham Fin-Vector along outside walls.

Materials used provide rapid heat transfer. Choices of pipe and fin sizes and fin spacing assure adequate heat.

Easy to Install

Fin-Vector is light in weight, needs few supports, requires little on-the-job cutting, speeds assembly.

Three cover designs available with complete line of accessories to form tight, sturdy, "finished" looking installation.

For further information, write to Dept. 22 for File 1256-11.

C. A. DUNHAM CO.
400 W. Madison St. • Chicago 6, Illinois

Sloping Top Cover

Flat Top Cover

Expanded Metal Cover

DUNHAM HEATING SYSTEMS AND EQUIPMENT

If you write maker identify as IEN - 11733

READ AIR VELOCITIES *instantly... accurately... anywhere...*

. . . WITH THE

ALNOR VELOMETER

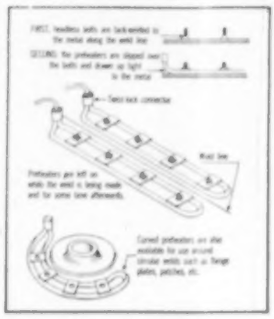
Alnor Velometer, a precision-built, self-contained, portable instrument, gives you instant, accurate readings of air velocities anywhere—in plants, mines, mills or laboratories. Measures speed of air flow through ducts, grilles, furnaces, spray booths or in the open. This rugged instrument needs no special care or delicate handling—anyone can use it and get accurate readings. Needs no calculations or reference charts. Available in a wide variety of scale ranges, and with a full assortment of jets and fittings for every application. You'll want full details and prices, so write for Bulletin 2448-G. Illinois Testing Laboratories, Inc., Room 517, 420 No. La Salle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 11734

HEATING . . Electric element designed to preheat for arc welding

Source: EDWIN L. WIEGAND CO.
7505 Thomas Blvd., Pittsburgh 8, Pa.



Specified shapes and sizes

The company announces availability of its basic triangular section Chromalox electric heating element in specified shapes and sizes for preheating application in arc welding work. Closed loops in either straight or curved section can be made to lie on both sides of or around a weld location in order to bring the work up to elevated temperature prior to starting the weld. They also serve to retard cooling after the weld has been completed on the work.

The elements are clamped in place on the job after tack welding studs to the work surface on the two sides of a weld line or around the outside of a circular weld. Nuts are then applied on these studs to hold down clamping plates as shown.

If you write maker identify as IEN - 11735

CONNECTOR . . Plastic splice cap turns on to grip stripped wire ends

Source: VAN CLEEF BROS.
7812 Woodlawn Ave., Chicago 19, Ill.

About $7 to $22 per 1,000

The company announces addition of a new internally threaded plastic splice cap to its Dutch Brand lines. The cap is available in four sizes to thread on the ends of two or more stripped wires with either solid or stranded conductors. The smallest unit will take two or three No. 18 wires. The largest will handle two, three or four No. 14 wires. A satisfactory solderless connection is made as the wires are twisted together by threading the connector.

If you write maker identify as IEN - 11736

POLISHING . . Rubber base wheels with mandrel and chuck, 44 pieces

Source: WELDON ROBERTS RUBBER CO.
12th St. & 6th Ave., Newark 7, N. J.

List is $3.60

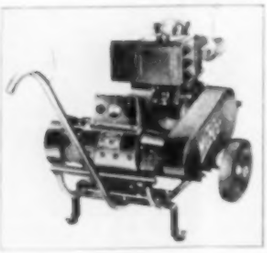
Rubber is impregnated with abrasive in manufacture of the company's Brightboy polishing wheels. These wheels are now available in a 44-piece kit in a range of sizes from ½ by ⅛ in. to 1 by ¼ inch. Each has a 1/16-in. center hole. The kit includes a mandrel and chuck, is known as Assortment 80A.

Applications include burring, finishing, cleaning and polishing of metals, plastics, wood, glass, hard rubber and laminated materials. The carrying case is made of transparent plastic. It measures about 8 by 3 by ⅝ inch.

If you write maker identify as IEN - 11737

GENERATOR . . Portable engine driven, 2,500 watts on 110 volt cycle ac.

Source: WINCHARGER CORP.
2103 E. 7th St., Sioux City 2, Iowa



Rolls to the job

Model 4500 is a new assembly of ac. generator and gasoline engine designed particularly to operate portable tools such as saws, drills, concrete vibrators, lights on a construction job or in the event of failure in normal electric circuits. The generator rates 2,500 watts in continuous duty, 3,000 watts intermittently. A Briggs & Stratton or Wisconsin engine can be specified. Outlet connections and a voltmeter are assembled in a cast-iron housing on the generator frame.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11738

● The Stuard AUTOMATIC AIR SEPARATOR removes all moisture, oil and foreign matter from air lines. Does not waste air by continuous venting. Patented one-piece separator and eliminator chamber. Write for bulletin.

R & IE STUARD AUTOMATIC
AIR SEPARATOR

R & IE EQUIPMENT DIVISION
I-T-E CIRCUIT BREAKER CO., GREENSBURG, PENNA.

If you write maker identify as IEN - 11739

For maximum "see-ability"... better work...increased production

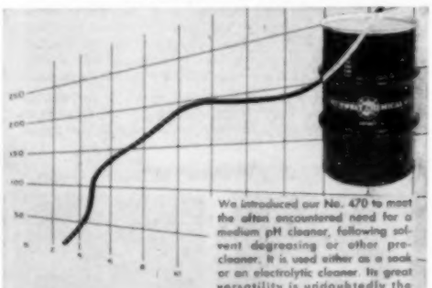
LUSTRA JADE-LITE

LUSTRA JADE-LITE gives a special quality of light that steps up "see-ability". In addition, its unique tone reduces glare, helps eliminate eye-strain, produce better work and boost production. Jade-Lite is absolutely tops for use in critical work areas. Write for the whole story on Jade-Lite Fluorescent Tubes—it can bring new efficiency and economy. Lustra Corporation, Dept. P-10, 36 Washington St., Brooklyn 1, N. Y.

Lustra
AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS INCANDESCENT LAMPS FLUORESCENT TUBES SPOT LITES AND FLOODLITES RUGGED DUTY LAMPS FLUORESCENT FIXTURES AND STARTERS

If you write maker identify as IEN - 11740



We introduced our No. 470 to meet the often encountered need for a medium pH cleaner, following solvent degreasing or other pre-cleaner. It is used either as a soak or an electrolytic cleaner. Its great versatility is undoubtedly the explanation for the spectacular sales growth of No. 470 . . . Send for complete information and 24 page brochure that describes all NORTHWEST Products . . .

1951-1952
growth of NORTHWEST CLEANER Number 470 . . . in Sales Volume

'32

If you write maker identify as IEN - 11741

COMPLETE EASE OF OPERATION in a controller

Any control action easily reproduced.

The Bristol Series 500 Air-Operated Controller permits you to do it by *merely setting a dial!*

This saves hours of shutdown.

Easiest to service, too. Simple design, fewest parts, close-tolerance manufacturing—make the instrument interchangeable throughout. One simple adjustment puts it back in exact calibration after complete disassembly and reassembly.

Five types for controlling temperature, flow, pressure, liquid level, humidity, pH. Write for Bulletin 120. THE BRISTOL COMPANY, 107 Bristol Road, Waterbury 20, Conn.

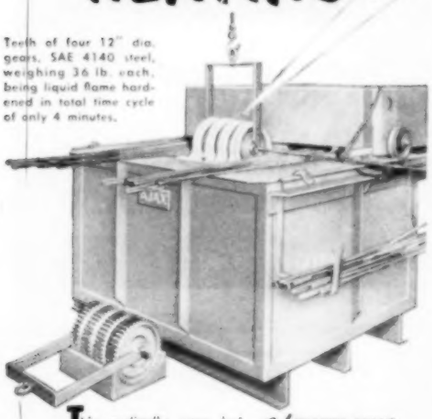
BRISTOL

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

If you write maker identify as IEN - 11742

Something NEW in Selective Heat Treating . . .

LIQUID FLAME HEATING



Teeth of four 12" dia. gears, SAE 4140 steel, weighing 36 lb. each, being liquid flame hardened in total time cycle of only 4 minutes.

This radically new but commercially proven application of the Ajax Salt Bath Furnace offers unique advantages over any other method for selectively heating the rim or edges of circular objects, hardening teeth on gears or sprockets, and similar operations.

A neutral type salt bath or a carburizing bath, heated by the internal electrode system, is maintained automatically at the required temperature. A number of the parts to be selectively heated can be mounted on a shaft within a suitable fixture which is placed over the salt bath. Only that portion of the periphery to be heated (such as the teeth of gears) is immersed in the bath. The work is then rotated and heating is extremely rapid due to conduction by the intimate contact with the liquid salt. Reprint No. 73 sent on request.

Associate companies: Ajax Electric Furnace Corp. • Ajax Engineering Corp. Ajax Electrothermic Corp.

- ✓ FASTER, MORE UNIFORM HEATING
- ✓ POSITIVELY NO OVERHEATING
- ✓ NO OXIDATION, SCALING, OR DECARBURIZATION
- ✓ FLEXIBILITY — When not used for "Liquid Flame Heating," the salt bath is available for conventional heat treating uses.
- ✓ LESS COSTLY — Operation is automatic—requires no skilled labor—handles large batches at a time.

AJAX electric SALT BATH furnaces

SELF-REVERSING • SELF-CIRCULATING

OVER 4,000 INSTALLATIONS... more than all other salt baths combined

AJAX ELECTRIC COMPANY, INC.

900 FRANKFORD AVENUE • PHILADELPHIA 23, PA.

If you write maker identify as IEN - 11744

RECORDING . . Solenoid operated pen traces forward, reverse, idle periods

Source: WALWORTH CONTROLS CO. 129-33 Main St., Rocky Hill, Conn.

List is $77.50

Multicorder is a new assembly of motor driven 8-in. circular chart and a recording pen operated by a double solenoid. One side of the actuating mechanism connects into a circuit for forward movement and the other for reverse to move the pen to one side or the other of its neutral center position which it will hold as long as a motor circuit is open. Intended application is on equipment to indicate intervals of operation in either direction and of idle-period duration.

The motor is available for operation on 110 or 220-volt 60-cycle ac. The solenoid pen coils can be specified between 6 and 220 volts. Charts are available for intervals of 8 hr., 24 hr., and 7 days to meet requirements of equipment operation.

If you write maker identify as IEN - 11745

HANDLING . . Tiering attachment to stack loaded wood pallets

Source: ELIZABETH IRON WORKS P. O. Box 360-A, Elizabeth, N. J.

For load to 1½ ton

Dubl-Duty is a new assembly of metal parts and tubular uprights to apply on a user's wood pallets. The attachment parts convert the pallet into a stacking unit so one loaded pallet can be placed above another in storage as shown in the illustration. Height ranges from 24 to 48 inches. Bearing plates on the uprights provide firm footing. Keylocks secure each unit in correct stacking position. The attachment can be removed from the pallet for storage in a small area.

If you write maker identify as IEN - 11746

VALVE . . Pressure regulator feeds acetylene from a supply tank

Source: LINDE AIR PRODUCTS CO. 30 E. 42nd St., Room 308, New York 17, N. Y.

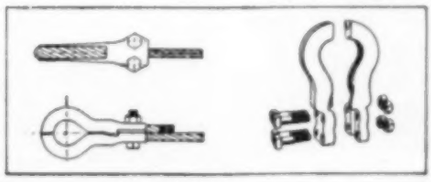
Turn knob to adjust

Pressure to 13 lb. per sq. in. can be delivered from an acetylene supply tank through this new Type R-411 regulator. The fabric reinforced rubber diaphragm serves to maintain a set pressure as the supply pressure decreases. A gage supplied as part of the standard equipment indicates remaining supply in the tank. The design provides for quick replacement of the diaphragm, the valve seat and the filter screw. These are the only parts that require replacement following a long period of use. The regulator is particularly suited for use with equipment for soldering, light brazing, paint burning.

If you write maker identify as IEN - 11747

WIRE ROPE FITTING . . Thimble clamps in place, ¼ to 1 inch sizes

Source: NEWMAN MFG. & SALES CO. 207 Westport Road, Dept. K-7, Kansas City 2, Mo.



Rope lies in fitting groove

Four sizes have been added to the Newco wire rope thimble, previously described IEN-9446-51. Two sizes, for ¼ and $\frac{5}{16}$-in. rope, are made of bronze. Two additional sizes, for $\frac{5}{8}$ and 1-in. rope, are made of cast steel. All four key together at the clamping end to confine strain on the bolts to tension only. Overall fitting length ranges from 3⅝ to 14¼ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11748

OTC TOUGH JOBS! THEY'RE A CINCH WITH THE CENTER-HOLE HYDRAULIC PULLER

17½, 30 and 50 TON SIZES

The OTC Power-Twin Hydraulic Puller is an ideal, economical tool, compact, powerful—handles 95% of the press work in the average shop. The Power-Twin may be detached from press—used as portable ram—speeds up pulling and installing jobs 75%, eliminates torque—remote control provides safety.

Famous OTC CENTER-HOLE Ram permits fast, easy adjustment to the work and interchange from push-puller to sleeve puller to bench press.

A complete range and variety of Pullers, Adapters and Attachments are available to pull or install sleeves, bearings, races, gears, pinions, couplings, etc.

Amazingly efficient combination of Portable Pedestal Press and 17½ ton Power-Twin Hydraulic Puller. Every shop will find this unit a must . . . first few jobs pay for it in time, tools and money saved. Move it where you want it . . . it's portable.

See your OTC jobber or write us . . . today.

OWATONNA TOOL CO.

371 CEDAR ST. OWATONNA, MINN.

If you write maker identify as IEN - 11749

A Thrifty Pair for Air!

MASONEILAN'S NO. 71 REDUCING VALVE AND NO. 61 FILTER

Together these sturdy new Masoneilan Air Reducing Valves and Air Filters provide all that's needed to keep air clean and pressure uniform. Their extra rugged construction reduces maintenance, increases service-life.

For initial pressures up to 250 psi. Reduced pressures 5—60 psi; 60—100 psi. Sizes ¼" to ½". Pressure gauge included. Sold separately or in combination.

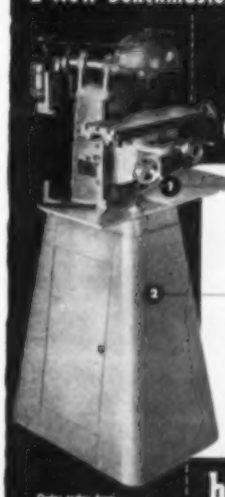
See your Mason-Neilan Industrial Distributor

MASON-NEILAN REGULATOR CO.

1188 ADAMS STREET, BOSTON 24, MASS., U. S. A.

If you write maker identify as IEN - 11750

2 New Benchmaster Mill Accessories that DOUBLE CONVENIENCE!



1 SPLASH TRAY — CAPTURES COOLANT RUN-OFF

Confines coolant to the table working area, draining surplus back to sump. Sheet steel edges rolled and beaded for extra strength. Size extends beyond all table movements. Easily attached by Hangers provided.

2 PEDESTAL BASE — CONVERTS BENCH MILL TO FLOOR MILL

This new Benchmaster accessory furnishes a solid secure mounting for your Benchmaster. Order it as a standard extra with new Benchmasters—or independently to convert present bench installations! Measures 30" high. Base dimensions 18" x 26". Top dimensions 10½" x 18". Rolled sheet steel construction, internal area accommodates one M 21 coolant system or can be used for storage.

Order today from your dealer or write for information!

benchmaster MANUFACTURING COMPANY

1835 W. ROSECRANS AVENUE, GARDENA, CALIFORNIA

If you write maker identify as IEN - 11751

NON-STICKING! TIGHT CLOSING!
— no pressure build-up

DAVIS No. 13
AUTOMATIC PRESSURE REDUCING VALVES

- **FOR MANY USES—**
  No. 13 regulator designed for reduced flow requirements in heating equipment, vulcanizers, molding presses, steam kettles, etc.
- **EXCLUSIVE DESIGN**
  Single seated, tight closing, non-sticking. Large diaphragm, sensitive pressure adjustment. Compact, rugged, self-contained. Orifice type insures high lift, low maintenance.
- **TROUBLE-FREE SERVICE—**
  Built-in Strainer, finest quality, all internal parts accessible and renewable without disturbing piping.
- **FOR STEAM, AIR, OR GAS—**
  For initial pressures to 250 p.s.i.; reduced pressures, 1 to 100 p.s.i. Sizes from ⅜" to 2". Bronze or semi-steel bodies; bronze or stainless trim. Economical for use on small units. *Write for Bulletin 100-A.*

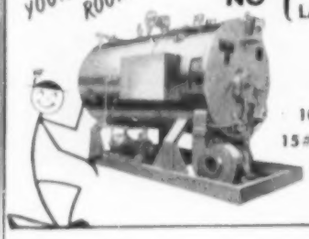
DAVIS REGULATOR CO.
Established 1875
2529 S. WASHTENAW AVE. CHICAGO 8, ILL.

If you write maker identify as IEN - 11752

AMESTEAM GENERATOR

JUST SET IT ON YOUR BOILER ROOM FLOOR!

NEEDS NO { FOUNDATIONS / BRICKWORK / LARGE STACK



10 to 500 h.p.
15# to 200# w.p.
OIL or GAS

You Supply Fuel Tank, Gas Vent and Service Connections . . . We Supply the Rest

AMES IRON WORKS INCORPORATED
BOX 1-10 • OSWEGO, N. Y.
Builders of Better Boilers Since 1848

If you write maker identify as IEN - 11753

NEW "MITE-MITE" NO. 500 Portable De-Magnetizer

The marvelous, tool-proof device industry has been waiting for.

Indispensable wherever magnetism is a problem.

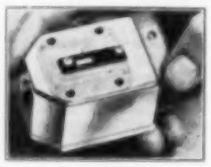
PRICE $10.50 complete
SEND FOR BULLETIN NO. 604
Order from your mill supply dealer or send order with name of your mill supply dealer.

ENCO MANUFACTURING CO., DEPT. IE-102
4524 W. Fullerton Ave., Chicago 39, Ill.

If you write maker identify as IEN - 11754

TESTING . . Vibration pick-up actuates an indicator or recorder

Source: MB MFG. CO.
1064 State St., New Haven 11, Conn.



5 to 2,000 cps.

Pickup Type 122 is a new unit in the company's line of vibration pickups previously described IEN-7152-46. The new unit extends the service temperature range from the previous maximum at 250 deg. F. to 500 deg. F. for the new type. It has sensitivity at about 21 mv. per 0.001 in. of double amplitude per 100 cps. Coil resistance is approximately 600 ohms. Resonant frequency is uniform at 5 cps. Damping is obtained electrically. A polarized locking connector and an 18-in. pigtail are supplied. The new type can be used interchangeably with the old one to produce identical data.

Application is by means of four screws that pass through tubular seals in the housing to the surface of the equipment in which vibration is to be studied. The instrument generates a voltage proportional to the velocity of the vibrational component perpendicular to the instrument base. This voltage is generated by the movement of a small coil mounted on the end of a pivoted shaft and free to move in a magnetic field created by two Alnico magnets. Housing dimensions are about 2¼ by 1½ by 1¼ inches. Weight is 8½ ounces.

If you write maker identify as IEN - 11755

WATERPROOFING . . Liquid solution to treat masonry, contains silicone

Source: GLIDDEN CO.
11041 Madison Ave., Cleveland 2, Ohio

Minimizes spalling

Silicone Dry Wall trade names a new liquid water repellent for application on exterior stone, formed masonry, brick, concrete, asbestos siding. The liquid coats the particles of the surface being protected, prevents water from penetrating the pores. At the same time it permits the masonry to breathe and is not affected by heat, cold or sunlight. It does not change the surface appearance or discolor it.

If you write maker identify as IEN - 11756

FURNITURE . . Folding table, steel legs, load capacity to 1 ton

Source: HOWE FOLDING FURNITURE CO.
1 Park Ave., Room 619, New York 16, N. Y.

About $24 to $55

Widths range from 24 to 36 in. and length from 48 to 96 in. in the company's new line of steel frame folding tables. Two heights are standard at 29 and 30 inches. The table folds to 2⅝ in. in height.

The steel frame and square tubular steel legs can be specified with a plywood, Masonite on plywood, linoleum on plywood or Formica on plywood top or with a plain Masonite top and hardwood edge. With the exception of the last named design, the edges are bound with aluminum. Each table is self adjusting on an uneven floor.

If you write maker identify as IEN - 11757

TESTING . . Rockwell instrument reads hardness on A to E scales

Source: J. P. NEWMAN CO.
819-23 Raymond Ave., Alhambra, Calif.

About $200

Work pieces to 3 in. in thickness, and also thin sheet steel, can be checked for hardness on this new design of the company's Rockwell instrument. Recent addition of A and D scales permit application on the thin materials. Throat dimensions will clear 1½ inches. Overall dimensions are 9 by 3½ by 11 inches. Weight is 6½ lb. without the carrying case. Equipment included with each instrument is one V-block, three test blocks and a range transposing chart.

The minor load is applied by compressing the test piece until the dial on the side of the housing has made two revolutions. The major load is applied by operating a cam on the top of the housing. Diamond penetrators for C scale readings list at $25 each. B and E penetrators are $3 each. The B scale employs a 1/16-in. ball penetrator. The E scale calls for one measuring ⅛ in. in diameter.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11758

TA 1702C

say **B&W** *before you say*

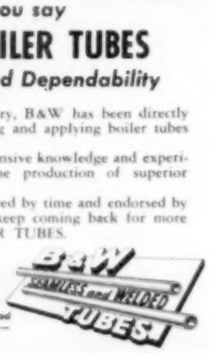
WELDED BOILER TUBES
for Service-Proved Dependability

For three-quarters of a century, B&W has been directly concerned with manufacturing and applying boiler tubes for all pressure requirements.

The application of this extensive knowledge and experience results naturally in the production of superior boiler tubes.

B&W dependability is proved by time and endorsed by hundreds of customers who keep coming back for more . . . B&W WELDED BOILER TUBES.

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
General Offices & Plants
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing Alliance, Ohio—Welded Carbon Steel Tubing



If you write maker identify as IEN - 11759

FABRICATED SCREENS STRAINERS

TO YOUR SPECIFICATIONS

• PRODUCTION RUNS

• HIGH QUALITY

NEWARK offers a "complete package" service in the design and manufacture of fabricated woven wire parts. We design and manufacture screens and strainers for all types of service; for handling oil, water, gasoline, air, corrosive gases or steam.

We manufacture the wire cloth, thus insuring its accuracy; we also do all the necessary cutting, forming, soldering, stamping, punching, welding and seaming. In other words, it's a NEWARK job from start to finish.

Newark Wire Cloth COMPANY
351 Verona Avenue • Newark 4, New Jersey

If you write maker identify as IEN-11761

Star has 'em

WHEN YOU WANT 'EM!

STAINLESS STEEL FASTENINGS OF ALL TYPES RIGHT OFF THE SHELF

In-Stock-Service on small or large quantities • Cap Screws • Machine Screws • Sheet Metal and Wood Screws • Set Screws • Nuts, Washers, Etc. Class 3 AN Drilled Fillister Heads. Fast service on special screw machine products.

WRITE, WIRE OR PHONE TODAY
New Catalog just off the press.

Star STAINLESS SCREW CO.
212 Union Avenue • Paterson 2, N. J. ARmory 4-1240

If you write maker identify as IEN-11762

good head for fast work

This head lets you see what you're doing; keeps controls at the comfort level; responds quickly with minimum effort. Correct gear ratio makes manual head traversing easy, lets you spot the head right on the "O". Gilbert "heft" in the right places minimizes deflection, holds accuracy even when drilling large work at outside limits of head and arm travel. Write for new Bulletin No. 349. *Those who buy Gilbert buy Gilbert again.*

THE CINCINNATI GILBERT MACHINE TOOL COMPANY
3306 BEEKMAN ST. • CINCINNATI 23, OHIO

RADIALS
BORING MILLS
ACCESSORIES

If you write maker identify as IEN-11763

Bought your copy yet?

- 700 Pages
- 450 Illustrations

"One or Several Are Needed in Every Stamping Shop . . . *American Machinist*"

Sections on: Computing press jobs • Selecting proper press • Useful engineering tables • Die illustrations • Complete glossary • Plus a service section for Bliss presses. **$7.50**

E. W. BLISS CO.
(Handbook Department)
1355 Raff Road S. W., Canton, Ohio

Rush me a copy of the Bliss Power Press Handbook.

I am enclosing $7.50..... • Bill me.....

If you write maker identify as IEN-11764

MANAGEMENT . . Board, labels, tapes to make an organization or record chart

Source: CHART-PAK INC.
102-6 Lincoln Ave., Stamford, Conn.

List is $34.50

The company announces addition of tapes, measuring $\frac{1}{16}$ and $\frac{1}{32}$ in. in width, to its Chart-Pak materials to construct organization and record charts. The original equipment, previously described IEN-129-51, employs the self-adhesive tapes in a variety of design with spaced numerals, letters and a collection of ruled adhesive labels or rectangular blocks and a guide-lined laminated plastic board. The kit contains about 10,000 in. of tape, enough to make a variety of charts covering business trends, production, costs, personnel, credits, collections.

Two sizes of board measure 12 by 18 in. and 22 by 32 inches. The guide lines are on ¼-in. spacing. They are non-photographic blue so a set-up can be photographed.

If you write maker identify as IEN-11765

PLATING . . Vacuum equipment deposits mirror surface on reflectors

Source: NATIONAL RESEARCH CORP.
72 Memorial Drive, Cambridge 42, Mass.

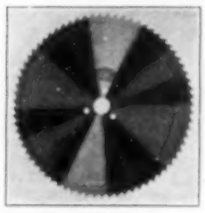
Please note added data

We named a price, about $40,000, for the equipment we described in IEN-10122-52. We want to add here that this price includes not only the metallizing equipment itself but also associated lacquering equipment and auxiliary facilities in a complete processing installation. The vacuum equipment alone represents about one-half the total.

If you write maker identify as IEN-11766

SAWING . . Circular blade, segmental design for metal cutting

Source: HENRY DISSTON & SONS INC.
49 Tacony St., Philadelphia 35, Pa.



Pins hold segments

Flexible pins are employed in the place of rivets to lock together the segments around this new Chromos circular metal cutting saw blade. The patented design provides alignment of the segments around the cutting edge and does not limit sharpening or interfere with quick segment replacement. Diameter ranges from 11 to 63 inches. Tooth spacing can be specified for any ferrous or non-ferrous metal. The center hole is drilled to specified size for each blade.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11767

If you write maker identify as IEN-11768

Lighter . . . TOUGHER

COFFING **CHALLENGER** SPUR-GEAR HOIST

Never before such rugged shock-resisting strength and easy portability in a spur-gear hoist!

CARRY IT EASILY, set it up anywhere—1-ton model weighs only [illegible] lb.

ALL STEEL, even the case—takes abuse as only steel can.

Find out more about the completely new spur-gear hoist that's lighter, stronger, easier to handle. Write for bulletin **P10C.**

COFFING HOIST CO., Danville, Illinois

Quik-Lift Electric Hoists • Hoist-Alls • Safety-Pull Ratchet Lever Hoists • Mighty-Midget Pullers • Differential Chain Hoists • Load Binders • I-Beam Trolleys

Sold by industrial distributors everywhere.

If you write maker identify as IEN-11769

HERE'S HOW YOU CAN BENEFIT FROM

SHELL MOLDING

with *BAKELITE* Phenolic Resins

When you design metal parts, ferrous and non-ferrous, with the shell molding process in mind, you can count on several economic benefits to be obtained from this modern foundry casting technique:

- **Castings have almost pattern-smooth surfaces.**
- **Pieces are cast to closer finished dimensions—tolerances as close as .003 to .005 inches per inch.**
- **Higher percentage of sound, uniform castings means fewer rejects.**
- **Better detail minimizes machining operations.**

The shell molding process utilizes thin, lightweight shell molds of fine-grained sands bonded with BAKELITE Phenolic Resins. Your foundrymen can tell you how to benefit from this process. Or, we'll gladly send you information about the BAKELITE Phenolic Resins developed expressly for shell molding, if you'll write Dept. EF-14.

BAKELITE
TRADE MARK

PHENOLIC RESINS FOR SHELL MOLDING

TRADE MARK

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.
In Canada: Bakelite Company (Canada) Ltd., Belleville, Ont.

If you write maker identify as IEN - 11771

HERE'S DUO-SAFETY'S TWO-SIDED . . . ALL ALUMINUM MAINTENANCE LADDER

TYPE AL2C

Double Size Platform

Especially Sturdy Spreader

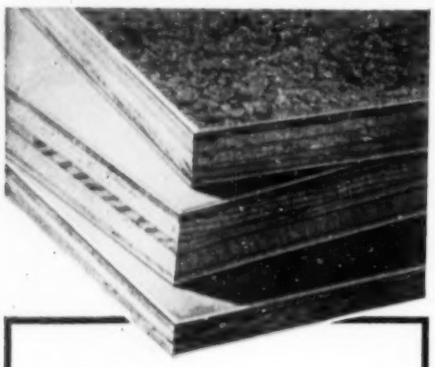
A. Angle Clip Brace.
B. Serrated, Reinforced Step.
C. Angle Brace.

A new ladder in the famous Duo-Safety line of strong, sturdy, aluminum industrial ladders. Has a double climbing side, large top platform, rubber safety boots, light, strong aluminum construction. Ideal for all types of overhead maintenance work including use with extension planks. Available in sizes from 3 to 16 feet and is collapsible for storage in a limited space.

Free, Colorful File Catalog . . . Sent on Request

DUO-SAFETY LADDER CORP.
811 NINTH ST. OSHKOSH, WIS.

If you write maker identify as IEN - 11772



ARMORPLY® MAY PROVE A PRODUCTION SHORT-CUT

Armorply is waterproof plywood, faced one side or both — with metal. Face may be "paint grade" steel, stainless, aluminum or other metals. Finishes: flat, polished or embossed in a variety of patterns.

The metal is permanently bonded to the core. The core ruptures before the metal can be torn from it, due to special glue, plus bonding under pressure. Glue is waterproof and resistant to fungus, termites and mold.

Armorply is far stronger than wood alone or metal alone. It is built to order for the particular use to which it will be put, made up in panels exact in all dimensions. Already Armorply is saving time and money in production and adding to the sales appeal of finished goods, by makers of dozens of products from refrigerators, truck bodies and elevator cabs to tote boxes.

Trained Armorply engineers work with production men, without obligation. You may have their services on request. Or, use the coupon below for free sample and brochure.

UNITED STATES PLYWOOD CORPORATION
World's Largest Plywood Organization IEN 11-82
55 West 44th Street, New York 36, N. Y.

We are interested in Armorply for _____

Please send a free sample and data.

Name _____

Address _____

City _____ State _____

If you write maker identify as IEN - 11774

CLEANING . . Engine driven sweeper rides under the forks on a lift truck

Source: LITTLE GIANT PRODUCTS INC.
1528-32 N. Adams St., Peoria, Ill.

Cleans out the corners

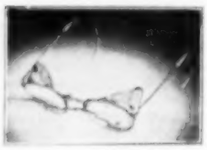
New side brush has been developed as an attachment for the company's Yard Bird engine driven sweeping machine. The brush operates on a vertical axis with belt connection to the machine to sweep debris from a gutter or wall angle into the path of the main cylindrical brush. The new brush is engaged and disengaged by operating a clutch located on the drive shaft. A keylock holds it from the floor when it is not required. The brush is made of Tampico fiber with steel wire interwoven into the outside row of bristles. It measures 24 in. at the floor line and tapers to 10 in. at its wood base. Height is 8 inches.

The machine itself is designed for operation by a standard power lift fork truck. It secures to the forks for this purpose.

If you write maker identify as IEN - 11775

PROTECTING . . Spectacle goggle with curved or flat safety lenses

Source: PENNSYLVANIA OPTICAL CO.
232-36 S. 8th St., Reading, Pa.



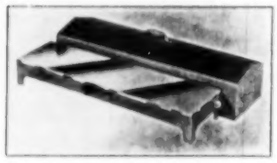
Safe clear vision

Series 220 designates a new spectacle-type safety goggle employing a metal frame and reinforced bridge with curved or flat standard 47-mm. or 44-mm. clear or absorptive safety lenses. Side shields made of wire mesh, leather or clear or green acetate are interchangeable. A range of bridge widths and lens sizes makes up the new line.

If you write maker identify as IEN - 11776

HEATING . . Electric hot plate for surface temperatures to 212 deg. F.

Source: LABLINE INC.
215-19 N. Desplaines St., Chicago 6, Ill.



For laboratories

A thermostat controls the temperature in the surface of this new 6½ by 24-in. hot plate to any temperature maximum at 212 deg. F. The plate employs a mat type woven heating element for operation on 110-volt 60-cycle ac. Input is 300 watts. A pilot light indicates closed circuit. A metal cover is supplied to protect the plate when it is not in use. It rides on rubber feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11777

in your bins,

HERE'S NEWS!

There is no necessity for moving materials in your production line up to and into a bin or hopper, only to have them stick, arch or bridge. That's hampering production and costing you money.

Simplest way to relieve this problem, **quickly** and **economically**, is to use a CLEVELAND Type F Air Vibrator. Old-fashioned methods, such as a heavy hammer, are hard on bins and don't keep materials moving properly.

The Type F will handle almost any granular—sand, gravel, cinders, cement, grain, ice, feed, coal, chemicals, etc.

The Type F, made in six sizes, hits hard or gently against the side or skin of the hopper. It can be adjusted to operate steadily or intermittently. If you have a nasty problem with your dry materials, it will pay to investigate CLEVELAND Air Vibrators—air-cushioned, quiet types and standard. Fit a wide range of materials handling problems. Catalog 103 gives complete details.

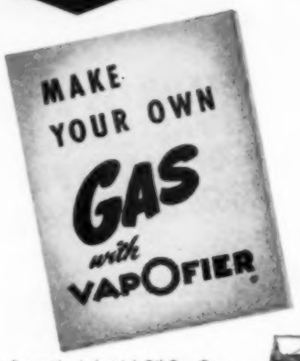
BIN Stuck Lately?

Move, Settle or Package Quickly with *Cleveland* Air Vibrators

THE CLEVELAND VIBRATOR CO.
2736 Clinton Avenue • Cleveland 13, Ohio

If you write maker identify as IEN - 11778

WRITE FOR THIS **FREE** BULLETIN



Vapofier — the Industrial Oil-Gas Generating Unit used for primary fuel source or as standby for natural gas.

VAPOFIER CORPORATION
10326 South Throop St., Chicago 43, Illinois

If you write maker identify as IEN - 11779

CHICAGO PIPE BENDERS for hand use on the job

Any arc or offset

No. 1
takes
½"-¾"-1" pipe
on
4", 8" and 11" diam

No. 2
takes
1¼" and 1½" pipe
on
14" and 17" diam

Sets up anywhere — one man operation — weighs 85 and 115 lb. with stand

Data and prices in illustrated literature

GUSTAVE LIDSEEN, INC.
840 S. Central Ave. Chicago 44, Ill.

If you write maker identify as IEN - 11780

At Cleveland Builders Supply . . .

. . . with Robbins and Myers "Freeways" handling. At the "Dax Plank" section, materials handling traffic has been completely separated from ground traffic with this result . . . no traffic jams. Materials are carried over rather than around obstacles. Utilization of floor space has gone up . . . materials handling time and cost has gone way down.

Two completely power driven, crane mounted, R&M two-ton capacity twin hoists handle 7,200 lb. "Dax Plank" assemblies throughout the production and storage areas. A separate one-ton capacity R&M "J" hoist similarly mounted serves as a feeder system moving single 1,800 lb. plank assemblies into the final production areas.

R&M representatives know the advantages, the mechanics of applying "freeways" handling systems to traffic problems in your plant. We suggest that you start taking advantage of this wealth of experience now by writing for Bulletin No. I-102N.

TAKE IT UP WITH

ROBBINS & MYERS INC

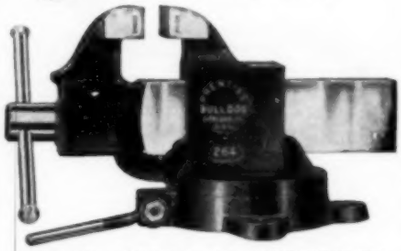
HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

If you write maker identify as IEN - 11781

PRENTISS

"BULL DOG" VISES

Backed by 80 years of time-proven acceptance by industry.



MACHINISTS — TOP SWIVEL JAW — COMBINATION PIPE HINGE PIPE — WOODCUTTERS — UTILITY

Renewable steel jaws that cannot work loose, swivel base with a positive lock plus other features give you vises that will stand the most severe tests. Send for THE NEW PRENTISS CATALOGUE TODAY.

See Us at Booth 737, Triple Mill Supply Convention.

PRENTISS VISE DIVISION

OF THE CHARLES PARKER CO., MERIDEN, CONN., U. S. A.

If you write maker identify as IEN - 11782

New! AMAZINGLY POWERFUL!

INDUSTRIAL AIR

TUBEAXIAL | VANEAXIAL

FANS

TUBEAXIAL FAN

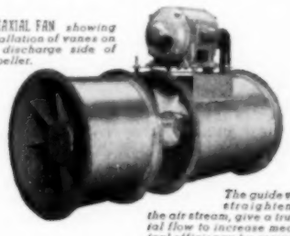
Designed for system ventilation.

May be connected to inlet or outlet duct, or both, as the installation may require.

For mounting at the inlet end of a duct the unit should be equipped with a streamlined orifice ring.

The new Industrial Air Tubeaxial and Vaneaxial fans produce high pressure air flow far beyond the capacity range of standard blowers. They are Industrial Air's answer to your tough exhaust problems. Produced after years of research. Provide greater economy in every way . . . COST, INSTALLATION, OPERATION AND MAINTENANCE. Delivers air against heavy pressure.

VANEAXIAL FAN *showing installation of vanes on the discharge side of propeller.*



The guide vanes straighten out the air stream, give a true axial flow to increase mechanical efficiency by converting waste energy to useful work

Installation of an Industrial Air Tubeaxial or Vaneaxial fan is as simple as replacing a duct section and requiring no more space. The noise factor is far below the decible rating of any comparable equipment. Available to your job needs and specifications, either direct or belt driven units, sizes from 12" to 48", motors from 1/4th H.P. to 50 H.P., Static pressure up to 4", 1000 to 65,000 C.F.M.

Represented in all principal cities

Write DEPT 802 for complete catalog

THE HARVEY P. BERTRAM CO.

1008 W. Ninth St. Cincinnati, Ohio

If you write maker identify as IEN - 11784

FILTERING . . Cartridge assembly for lubricants and industrial fluids

Source: U. S. HOFFMAN MACHINERY CORP.
217 Lamson St., Syracuse 6, N. Y.

Hand wheel cover lift

Flomaster trade names a new line of cartridge-type liquid filtering equipment capable of separating particles as small as 20 microns from lubricants and industrial fluids. Ten sizes rate 75 to 900 gpm. Initial pressure drop through the filter is 5 lb. based on 150 SSU oil.

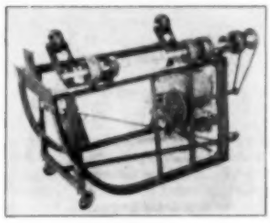
Smallest unit in the line is assembled in a tank measuring 20 in. in diameter by 40 in. in height. It is equipped with 3-in. flanged inlet and outlet located in line on opposite sides of the tank near the bottom. Fluid capacity to fill the housing is 35 gallons. This unit employs one tier of three cartridges. Largest assembly measures 42 by 68 in. and has 8-in. inlet and outlet. It holds 250 gal. of fluid and employs 36 cartridges in two tiers. Maximum operating pressure for the cartridges is 35 lb. and for the tank is 60 pounds.

Each cartridge consists of 135 resin-treated disc assemblies stacked vertically to form a 7 by 18-in. throw-away unit that provides 45 sq. ft. of filtering area. Each disc in the cartridge is composed of two paper discs secured together by electronically heated adhesive around their outer edge. This adhesive is impervious to water and oil. A resin treated paper separator is located between the two discs to provide spacing between them as well as passageway for the filtered oil. It enters through the discs and moves toward the center of the cartridge which is assembled over a 2-in. perforated metal manifold tube that carries the filtered oil to the outlet. The stack of discs in each assembly are compressed and held in place by three tie rods. A handle at the top of the cartridge permits lifting it out for discard and replacement.

If you write maker identify as IEN - 11785

MIXING . . Portable cradle picks up and rotates filled drum

Source: MORSE MFG. CO.
120-24 Dickerson St., Syracuse 2, N. Y.



$228 with motor

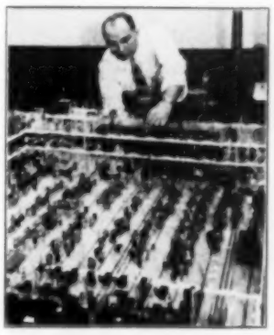
The contents of a 30 or 55-gal. drum are mixed by rocking this new design of the company's Model-200 Drum Rotator into vertical position to pick the drum up then rocking it back so the drum comes to rest on the power driven and idler rolls. The driving motor is then started and the drum is rotated for the mixing operation. Speed can be set, by selecting sprocket sizes, between 10 and 30 rpm. When the contents have been mixed, both cradle and drum can be tilted back to vertical position to release the drum.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11786

The "VISUAL" Repro-Templet Method*

TRADE MARK



The only 3-dimensional model and film templet method that provides means of securing blueprint or white prints directly from the completed 3-dimensional layout, using your own printer.

6¢ per square foot (200,000 or more) of plant area for complete plant** . . . building, *all* equipment and film templets.

*Patented in U.S. and Canada
**Any Industry

"VISUAL" PLANNING EQUIPMENT CO., INC.

1 Pennsylvania Avenue
Oakmont, Allegheny County, Penna.

If you write maker identify as IEN - 11787

KUSHION-TORQ

WHAT IT WILL DO FOR YOU

The Cushion Torque of Kanti-Lever Couplings absorbs the hammer blows of sudden or reversing loads and dampens the torsional and radial vibration that causes wear, fatigue and sometimes failure of Motors, Speed Reducers, Ball Bearings and productive machinery. No other coupling is like the Kanti-Lever. It has a circular series of laminated Cantilevers of 200,000 lb. steel, operating in slots, the tapered sides of which automatically stiffen the Cantilevers under increased overloads. Special end play up to four inches is possible without end thrust. The outer periphery of the Kanti-Lever is available as a brake drum for quick stopping or reversing machinery.

Send for Bulletin No. 28-N.

Kanti-Lever Couplings

4,000,000 h.p. in Use

MFRS. OF SECTIONAL STOCK RACKS

BROWN ENGINEERING CO.

122 NORTH 3RD ST. READING, PENNA.

If you write maker identify as IEN - 11788

Chicago MOUNTED Wheels

...now even better with

79E BOND

Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & Mfg. Co.

Dept. N • 1101 West Monroe Street, Chicago 7

If you write maker identify as IEN - 11789

BARCOL
ELECTRIC OPERATOR

FITS ALL JOBS

The main advantage of this electric door and gate operator is that it is almost "universal" in application. It will operate all kinds of overhead, swinging, sliding, and steel rolling doors, and sliding gates. This means lower first cost and lower maintenance cost because of requiring a minimum of repair parts and spare units.

Write for Literature

This new brochure, just off the press, completely describes the features and uses of Barcol Electric Operators. Write for your copy today!

Sales and service representatives in principal cities

BARBER-COLMAN COMPANY

114 MILL ST., ROCKFORD, ILLINOIS

If you write maker identify as IEN - 11790

everything you want in

FLOAT VALVES

KECKLEY

No matter what your float valve needs may be, Keckley can meet them. For dependable level control, you can't beat Keckley valves. They're built to offer long service with minimum maintenance. And Keckley balanced float valves provide constant, uniform flow and positive closing. Sizes from ½" to 12". Screwed, standard or extra heavy flanges. Check with Keckley.

PRESSURE REGULATORS • TEMPERATURE REGULATORS • POP SAFETY VALVES • RELIEF VALVES • FLOAT BOXES • BALANCED VALVES FORGED STEEL GAUGES • MOTOR OPERATED VALVES • PUMP GOVERNORS • FLOAT VALVES • STRAINERS

O. C. KECKLEY COMPANY
400 West Madison Street • Chicago 6, Illinois

If you write maker identify as IEN - 11791

where ELSE can you use PRINT-AD-STRING

Reg. U. S. Pat. Off.

the "TIE that TALKS"?

Tie up your products with Print-Ad String, and wherever they go they tell people your name or slogan, they give directions, they measure footage, they provide grade markings—they tell whatever you want told . . . and tell it in a novel, colorful way.

Here's a tremendously strong COTTON tie—in thicknesses down to .003, widths down to ¼", in any color or combination of colors you want—a tie that won't mar or dent the edges of articles tied in it—won't slip in the knot—won't stretch—and adds a smart touch to your package.

Mighty useful for manufacturing short-cuts, too. Be informed! Mail coupon now for FREE booklet full of valuable ideas!

BETTER TYING

Holds parts firmly for assembly, cutting, drilling. Holds parts in finished assemblies . . . Measures running footage . . . Gives directions, grade marks, identifications.

BIG HELP IN THE PLANT

Good looking all cotton tape . . . Flat, won't mar or dent edges of boxes or merchandise . . . Won't slip in the knot . . . Non stretch, great strength . . . Also used as rip cord opener, from candy bars to survival kits . . . Ties anything!

MAIL FOR FREE IDEA BOOK!

Dept. 9—Chicago Printed String Co.
2300 Logan Blvd., Chicago 47, Ill.

GENTLEMEN: Without cost or obligation send me your FREE Idea Book.

My Name _____
Title _____
Company _____
Address _____
City _____ State _____

If you write maker identify as IEN - 11793

CUTTING . . Abrasive disc machine for concrete, brick, tile, stone

Source: TRI-LINE CO.
929-33 Carroll St., Racine, Wis.

For a fast clean job

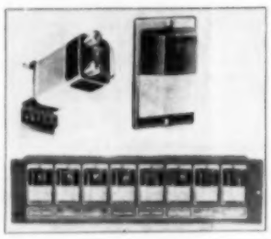
The diamond blade on this new engine driven water cooled machine is fed into the work by hydraulic pressure for cutting depth to 6½ inches. The blade can be mounted at either side of the three wheel carriage. The carriage can be turned within its own length. Standard equipment includes a 13-hp. two cylinder Wisconsin engine, a 30-gal. water supply tank and a caster supported guide finger to assist in following a line.

Sections of a pavement can be cut out for removal. Trenches can be cut to install or repair underground service lines. Ramps can be scored or grooved to provide a safe footing.

If you write maker identify as IEN - 11794

SIGNALING . . Electric annunciator indicates normal, abnormal conditions

Source: TIGERMAN ENGINEERING CO.
4330-34 N. Western Ave., Chicago 18, Ill.



For wide visibility

New turret lens, in a range of colors, has been developed for application on the company's electric annunciator, previously described IEN-8482-52. Each lens has an upper section of one color and a lower section of another, the latter usually white frosted. An operator in a control room can see at a glance which alarm signal is flashing. The lens applies on the company's standard annunciator equipment employing plug-in light assemblies in specified cabinet arrangement.

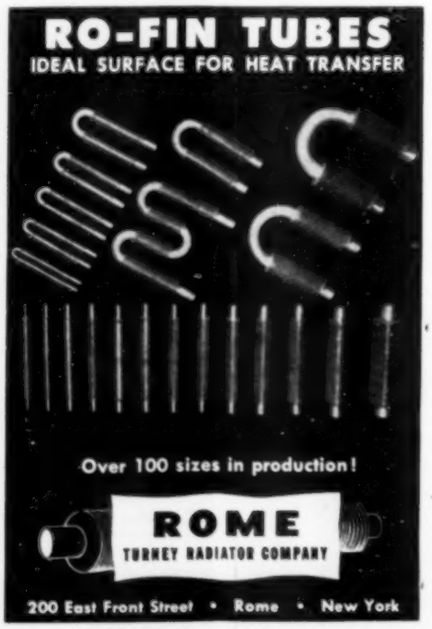
Identify as IEN - 11795

We told you about an application of Acheson Prodag, an aqueous dispersion of semi-colloidal graphite, in IEN-10152-52, as a means to prevent sticking together of the faces of clutch plate assemblies in a sintering operation. We should have said that the Prodag is applied on the two faces of stainless steel separating discs which are placed between individual clutch plate assemblies and not on the faces of the clutch plates themselves as we stated in our item. The stainless steel discs keep the individual clutch plate assemblies separate. The Prodag prevents the discs from sticking to the plates.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11796

RO-FIN TUBES
IDEAL SURFACE FOR HEAT TRANSFER



Over 100 sizes in production!

ROME
TURNEY RADIATOR COMPANY
200 East Front Street • Rome • New York

If you write maker identify as IEN - 11797

JOHNSON FLEXIBLE METAL HOSE AND FITTINGS for coolants, lubricants, air

Five sizes ⅛ to ¾ in. i.d.
Nine lengths 6 to 36 in. with fittings
Made of oil tempered steel

WRITE FOR FURTHER INFORMATION

JOHNSON METAL HOSE, INC.
P. O. Box 952, Waterbury, Conn.

If you write maker identify as IEN - 11798

DERMATITIS CAN BE CONTROLLED!

How? With West's simple, inexpensive prevention and control program that . . . (1) makes sure of personal cleanliness (2) protects exposed skin areas (3) prevents clothing contamination (4) guards against special hazards.

Dermatitis costs industry a staggering $100,000,000 each year. Compensation and medical care for the average case is $200. Plus, further hidden costs — absenteeism, replacement training, sacrificed quality, lowered morale, lost production. All, needless expense.

The WEST Dermatitis Control Program is based on an in-*your*-plant survey — made without obligation or inconvenience to you. A West representative will be glad to give you details.

FREE BOOKLET! *Write for your copy of West's new Dermatitis Control Booklet.*

WEST DISINFECTING *Company*

Dept. 13C
42-16 WEST STREET, LONG ISLAND CITY 1, N. Y.

If you write maker identify as IEN - 11800

SAVE MORE TIME AND MONEY IN MATERIAL TIERING WITH THE

PALTIER PYRAMID RACK

DESIGNED FOR YOUR PARTICULAR REQUIREMENTS.

Exclusive self-aligning feature makes stacking quick and easy.

All steel units insure safety.

All Paltier pyramid racks are designed to meet your requirements regarding load capacity, dimensions, special framing and decking. Posts slip-fit into sockets are easily removed and can be replaced with posts of other lengths.

HERE IS ONE TYPE OF PYRAMID RACK. OTHER DESIGNS TO MEET YOUR SPECIFIC REQUIREMENTS!

NESTING PYRAMIDS — available for YOUR RACKS
Paltier will furnish the self-aligning, nesting pyramids at reasonable prices for welding to your equipment. Fits any size post up to 3½ inches square.

SEND TODAY — FOR NEW FREE CATALOG DESCRIBING THE PALTIER SYSTEM FOR BETTER MATERIAL HANDLING

The PALTIER Corp.
1701 Kentucky St.
Michigan City, Ind.

If you write maker identify as IEN - 11801

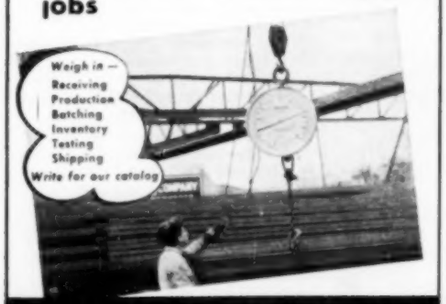
How much do you weigh?

Not you, but your products! Do you weigh in receiving, at production stages, etc. to protect your operation against overcharges, losses, miscalculations? HYDROSCALE, the hydraulic crane scale, makes it practical to check whenever and wherever you should, weighs on the spot, eliminates weighing stations and man power and equipment tie-ups.

36 MODELS, 500 to 200,000 LBS.

HYDROSCALE

reduces the effort and expense associated with routine weighing jobs



HYDROWAY SCALES, INC.
20632 W. 8 Mile Rd. • Detroit 19, Mich.

If you write maker identify as IEN - 11803

COMMUNICATING . . Sound recorder for dictation on Vinylite discs

Source: THOMAS A. EDISON INC.
49-53 Lakeside Ave., West Orange, N. J.

To record and transcribe

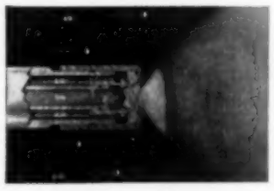
Weight is 11 lb. and height is a bit under 2½ in. in this new motor driven electronic unit in the company's Voicewriter line. The new machine records sound on a Vinylite disc which has capacity for 30 min. of dictation on its two faces. The same machine plays back in clear reproduction as a transcriber. Control centers at a single knob which can be positioned for dictating, play back, transcribing and to scan all or any part of a disc.

A lock switch holds the diamond stylus in place and also anchors the other internal parts of the machine while it is being carried. A miniature blower prevents overheating. The microphone serves as a speaker for play back. Indicator lights tell when the machine is ready for dictation. An audible warning sounds upon approaching the end of a disc. Operation is on 110-volt 60-cycle ac.

If you write maker identify as IEN - 11804

BOILER . . Self-contained design, 15 to 500 bhp., pressure to 250 pounds

Source: ORR & SEMBOWER, INC.
860 Morgantown Road, Reading, Pa.



Section through burner

Veriflow trade names new air-atomizing burner to handle fuel oil over a wide range of viscosity in the company's line of self-contained boilers. The new burner will operate satisfactorily on light to No. 6 Bunker C oil with boiler rating at 30 per cent to full load. It completes combustion in the fire box under all conditions. Products of combustion travel through the chamber to the rear where they turn to move through a lower bank of tubes to the front and then again reverse to enter two lateral tube banks that carry them to the flue connection at the rear.

Oil flows through the central burner tube to issue into the atomizing air stream through multiple perforations. The atomizing air, representing about 1 per cent of the total air for combustion, is introduced into the combustion chamber across the oil streams through converging tangent slots in the nozzle core. A beryllium copper body holds a stainless steel cap over the slots. Dams near the end of the oil tube prevent drip on shutdown. The copper body and the brass air tube conduct heat back for quick dissipation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

If you write maker identify as IEN - 11805

A Paid News Advertisement by Mathewson Machine Works

NEW ADJUSTABLE DRILL JIG eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carriers hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works**, 26 Hancock St., Quincy, Mass.

If you write maker identify as IEN - 11806

HYDRAULIC DESIGN MADE EASY!

This Hannifin catalog gives complete engineering and design data on 11 Hydraulic cylinder mounting types, 1" to 8" bore, with or without cushions—styled to meet every requirement. Interchangeability of collars and caps makes possible unlimited combinations. Send for your copy of this valuable reference.

WRITE FOR BULLETIN 110.

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Ill.

If you write maker identify as IEN - 11807

IF IT HAS TO GO UPSTAIRS

PUT THE LIFTVEYOR TO WORK

The Liftveyor is a quick economical way to move boxes, crates, parts and subassemblies from one floor to the next. It was engineered by conveyor specialists with more than 30 years experience in materials handling. All parts are standardized and mass-produced for manufacturing economy—low cost.

All elements are tested, assembled and packaged for immediate shipment and for a minimum amount of field assembly.

The design of all components has stood the supreme test of long continuous service and the complete assembly incorporates all approved safety factors.

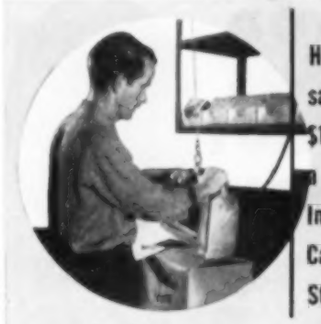
Belt speed and type of bed (roller or slider) are optional.

Conveyor may be controlled from any point.

Write for details and prices, stating your operating requirements.

Mechanical Handling Systems Inc.
4605 NANCY AVE. • DETROIT 12, MICH.
Offices in Principal Cities
In Canada: Canadian Mechanical Handling Systems, Ltd.
4970

If you write maker identify as IEN - 11808



How Avon saves $12,000 a year with International Carton Stapler

In 1950, the Chicago branch of Avon Products Inc., nationally known manufacturers of cosmetics and toiletries, installed an International Stapler for closing filled cartons of their products.

Formerly, it took 32 man-hours to close between 1,500 and 2,000 cartons of varying sizes. With the International Stapler, this operation requires approximately one-fourth the time.

International Staplers will save you up to 50% on shipping costs . . . write for details. ***Have you seen the new movie, "Package for Profit"? Ask about bookings.***

INTERNATIONAL STAPLING MACHINES
INTERNATIONAL STAPLE & MACHINE COMPANY
800 East Herrin Street, Herrin, Illinois

If you write maker identify as IEN - 11809

Aerovent EXTENDED SHAFT FAN

KEEPS MOTOR OUT OF AIR STREAM

Extended shaft may be water jacketed, if desired. Sizes 12" to 60". 2, 4 or 6 Blades.

For industrial applications where it is desired to keep the motor out of the air stream to meet Underwriter's specifications for exhausting explosive vapors. It protects the motor from high temperature air, corrosive fumes, or combination of obnoxious fumes and moisture.

Certified Ratings — AMA

Other Models

Direct Connected, Man Cooling, Duct Type, Belt Driven, Pulley Driven. Sizes 12" to 144".

Write today for ENGINEERING BULLETIN

AEROVENT FAN CO., INC.

ASH and BROWN STREETS, PIQUA, OHIO

Competent Sales Engineers in Principal Cities

If you write maker identify as IEN - 11810

FAR LESS TIP BREAKAGE with "RING SEAT" CENTER DRILLS

"RING SEAT" CENTER DRILLS FOR YOUR HEAT-TREATED PARTS

The "R" type, curved contour Ring Seat center drills give you a stable, accurate, precision center, quickly restored after heat-treat.

Ring Seat center drills produce a protected center at no extra cost — and carry a built-in discount because they last longer.

Lapping After Heat Treat

is a simple, quick operation since only about one-third the usual area needs clean-up. Lapping with a rotating felt wick removes heat scale and restores a perfect center — at the original place.

• A PREMIUM DRILL AT NO EXTRA COST •

LINK INDUSTRIES

13848 Elmira Detroit 27, Mich. FREE CIRCULAR

If you write maker identify as IEN - 11811

GOOD NEWS ABOUT WHEELS

NEWS! About how 44 centers and only 22 bearings give a choice of 144 sizes to 12" x 4".

NEWS! About American Steelite® light-weight champs—weighing up to 9 pounds less than ordinary wheels.

NEWS! About American Tread-Lock method—the tread is *Rolled On So It Won't Roll Off!*

NOW! Get all this NEWS in the NEW bulletin on American Industrial Wheels, from:

THE AMERICAN PULLEY COMPANY, Phila., Pa.

THE AMERICAN PULLEY COMPANY
4240 WISSAHICKON AVE., PHILA. 29, PA.
Gentlemen:
I want the NEWS about Wheels—rush me your new American Steelite® Wheel Bulletin.
Name
Firm Name
Address
City Zone State

If you write maker identify as IEN - 11812

CONSTRUCTION . . Pivoted lattice adjusts to face a concrete form

Source: KURT ORBAN CO.
204 E. 43rd St., New York 17, N. Y.

Developed and used in Europe

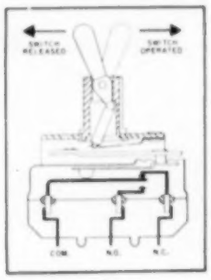
Kubura trade names new patented pivoted wood lattice that can be adjusted, in a Type A, to fit any rectangular form between 68 by 16 in. and 124 by 9 inches. Maximum area is 30 sq. ft. on 89 by 49 in. and cost is about $1 per square foot. Weight is about 50 pounds.

The lattice is adjusted to fit the concrete form and then is faced with Kraft paper or ⅛-in. composition board tacked in place for removal after the concrete has set. The lattice itself can be reused many times. Also it can be curved for use in circular forms. Four standard sizes are available.

If you write maker identify as IEN - 11813

SWITCH . . Hermetically sealed, toggle operation, 1 amp. on 110 volt ac.

Source: MICRO SWITCH
30 E. Spring St., Freeport, Ill.



List is $16

Catalog 5ATI designates new combination assembly of operating toggle and the company's Catalog-1HS1 hermetically sealed basic sensitive snap acting switch. The unit provides single pole double throw contact arrangement so the new assembly can be used in normally open or normally closed single throw service or for double throw action. The toggle is detented in both "on" and "off" positions.

Hermetic sealing with a diaphragm around the actuating plunger makes the switch independent of changes in atmospheric pressure or temperature and excludes moisture, dust, oil. Overall dimensions are about 2 by ¾ by 2¾ inches.

If you write maker identify as IEN - 11814

FLOORS . . Selection information on concrete and composition floors in 52-page catalog

E. H. O'Neill Floors Co.
2523-27 S. 50th Ave., Cicero 50, Ill.

"Floors for Industry" starts with a set of recommendations on floor materials by occupancy requirements, follows this with data summaries on a line of materials, then gives detail installation procedures from preparation to finishing. The materials include concrete, mastic, patching compounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11815

TRY THIS NEW FASTENER—FREE!

For fastening laps of corrugated asbestos or plastic roofing sheets, new work or maintenance — all without scaffolding —

HOLEGRIP
(Patent Applied for)

Eliminates all interior scaffolding.
Puts entire crew topside.
Increases fastening speed.
Completely seals holes, new or old.

Here is the fast, 3-step HOLEGRIP method:

1. Drill ½" hole through sheets at side lap.
2. Insert HOLEGRIP; toggle drops to horizontal position, engages nut.
3. Complete fastening by tightening with power nut-runner. Weath-R-seal seals the hole.

***THAT'S ALL!* Total time: 20 seconds!**

For complete information and sample fastener, with tool data, write:

FABRICATED PRODUCTS COMPANY
1952 Water Street West Newton, Pa.

If you write maker identify as IEN - 11816

New Bib Type White Side APRON for

- SAFETY
- COMFORT
- ECONOMY

Now — a practical, easy-to-clean fabric apron that insures maximum wearer comfort, yet is tough and sturdy for dependable protection. Extremely flexible and light—actually weighs less than 8 oz!—it allows ease of movement under a wide variety of working conditions. Durable, too — designed for a long period of satisfactory service. And the cost is only twelve dollars per dozen.

Send for Booklet No. 562 describing our complete line of protective clothing. If you have special requirements, our research and designing dept. will help you. Just write giving full details.

APRON ILLUSTRATED $1

STANDARD SAFETY EQUIPMENT CO.

232 W. Ontario Street Chicago 10, Ill.

If you write maker identify as IEN - 11817

SAFER IN YOUR PLANT

PLUGMOLD 2000 with SNAPICOIL by WIREMOLD

SAFER in Every Way!

If you're proud of the safety record in your plant, Plugmold 2000 will help you maintain it!

SAFER

This steel channel carries electrical wiring *safely* to multiple electrical outlets right at the point of use—no clutter of cords to trip over, no dangerous makeshift wiring hookups with their fire hazard.

SAFER

Plugmold 2000 is available with NEMA *grounded* outlets for grounding electrical tools and appliances.

Easy to install, too, because the pre-wired Snapicoil receptacles *snap* right into the raceway cover in a continuous run!

Write today for the new, free Plugmold 2000 book!

PLUGMOLD 2000

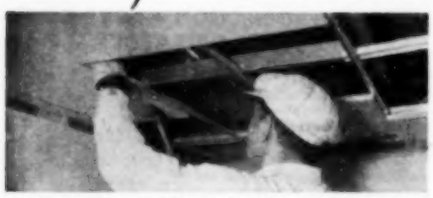
WIREMOLD'S *New* multi-outlet system

THE WIREMOLD COMPANY
Hartford 10, Connecticut

If you write maker identify as IEN - 11819

ALUMINUM CEILING PANELS

Pretreated with **VINSYNITE** for superior paint adhesion



In the new Alcoa Building in Pittsburgh aluminum ceiling panels are attached to aluminum tubing through which hot water is circulated for heating and cold water for cooling. Because of its strong adhesion to metal under varying temperatures, Vinsynite was used to pretreat the exposed side of the panels. Over the Vinsynite, a finish coat of Thompson's modified alkyd-type flat white was used.

If paint adhesion is your problem Vinsynite will help you because Vinsynite clings tight to any metal to form a firm base for finish coats so that they will give years of durable service.

Close-up of Vinsynite pretreated aluminum ceiling panel.

Vinsynite has many other advantages which are discussed in detail in our report on Vinsynite, a copy of which is yours for the asking. Write today.

SPECIALTY COATINGS, INC.
DIVISION OF
THOMPSON & COMPANY
1088 Allegheny Avenue Oakmont, Pa.

If you write maker identify as IEN - 11820

NEW SOLVENT
REPLACES POISONOUS CARBON TETRACHLORIDE

Formula 602 Cleans Motors & All Electrical Equipment

FORMULA 602 replaces carbon tetrachloride for cleaning and degreasing motors, electrical equipment, radio parts, coils, condensers, generators, etc. Use it to remove residues of solder flux and dirt from contact points. Ideal for tank degreasing of parts and tools, wipe or spray cleaning of machinery — and as a diluent. FORMULA 602 cleans instantly and dries rapidly without corroding metals or damaging electrical insulation.

AUTHORITIES AGREE CARBON TET CAN CAUSE DEATH

Carbon tetrachloride can cause rapid poisoning and death if inhaled or swallowed! Even continued moderate use of this poison causes severe and incurable damage to liver, kidneys, heart, adrenal glands and nervous system by absorption through the skin. Safety authorities caution against use of this hazardous solvent!

test by independent laboratory

CARBON TETRACHLORIDE

DEAD — Ten adult albino rats inhaled 125 parts carbon tet per million parts air. Within 30 minutes seven rats were dead. Next day, after another 30 minutes exposure, the remaining three rats died!

FORMULA 602 SAFER TO USE

FORMULA 602 is actually 24 times less toxic than carbon tetrachloride. Its high flashpoint virtually eliminates fire risk under all practical conditions of use. FORMULA 602 is certified safe for use and storage aboard ships by the U. S. Coast Guard.

FORMULA 602

ALIVE — Ten adult albino rats inhaled 125 parts FORMULA 602 per million parts air for 30 minutes each day. After 14 days the rats were all alive and healthy!

Send For Full Information Today!

the PENETONE co.
BOX IEN-1052, TENAFLY, N. J.

If you write maker identify as IEN - 11822

TESTING . . Voltage indicator also identifies ac. and dc. circuits

Source: HOLUB INDUSTRIES INC.
411-15 DeKalb Ave., Sycamore, Ill.

About $11 with the cloth case

One prod is assembled in the end of the molded plastic housing of this new Hi-Test indicator. The other connects through an extension lead. The voltage scale is mounted in the rear housing end where it stands in direct view.

Readings cover a range from 110 to 600 volts. Overall length is 8½ inches. The extension lead measures 48 inches.

If you write maker identify as IEN - 11823

VALVE . . Diaphragm operated, regulates pilot on gas appliances

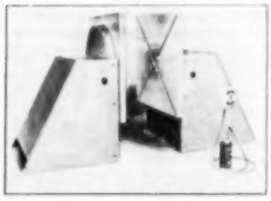
Source: DETROIT REGULATOR CO.
1744 Rivard St., Detroit 7, Mich.

Maxitrol RV-10 is a new ⅛-in. pilot regulator to control gas flow in a pilot flame line. It employs a non-metallic seat and will maintain even regulation when inlet pressure rises to 1 lb. at flow rate as low as ¼ cfh. Construction is featured by the clamped assembly employed in the body. Housing diameter is a little over 1½ inch.

If you write maker identify as IEN - 11824

WELDING . . Work positioner, head and tailstock, swing to 100 inches

Source: ARONSON MACHINE CO.
152 W. Main St., Arcade, N. Y.



Showing Model HTS5

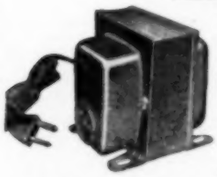
Model HTS, 5, 12 and 32 are three new lathe type work positioners to handle work on a horizontal axis for arc welding. Load capacities are 2½, 6 and 16 ton. Center height above the floor line is 28, 36 and 50 inches. The square face plates measure 30, 48 and 54 inches. Drive is by a ¾, 2 or 5-hp. motor for rotating speed at 1.13, 0.97 and 0.57 rpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11825

MAKE EVERY MACHINE INDEPENDENTLY LIGHTED WITH ACME ELECTRIC STEPDOWN TRANSFORMERS

• Acme Stepdown Transformers are available in standard ratings from 75 to 2000 watts. Ready for easy installations.



Motorized machines that are individually lighted (with a concentrated light at the working area) can be shifted in production lines with a minimum of expense and delay. An Acme Electric stepdown transformer mounted on the machine and connected to the power line can supply proper voltage for lighting requirements. Investigate this modern method of completely electrifying machinery.

ACME ELECTRIC CORPORATION
2610 WATER ST. CUBA, N. Y.

Acme ACME Electric

If you write maker identify as IEN - 11826

Need Rails—Switches—Frogs—Guard Rails or Track Tools? For best selections and prompt deliveries—try FOSTER—shipments of most items can be made from stocks in our five nationwide warehouses.

RAILS—New and Relaying Foster stocks are being replenished daily. Any items we did not have last week, we'll probably have next week. We match specifications and sizes to meet all your requirements on any job, new installations or replacements. *Call on Foster for all your needs for Industrial Track Equipment and Supplies.*

Write for Track Equipment Bulletin IE10.

L. B. FOSTER CO.
CHICAGO 4, ILL. HOUSTON 2, TEX.
PITTSBURGH 30, PA. NEW YORK 7, N.Y.

If you write maker identify as IEN - 11827

CUT SPRAYING COSTS with CO_2 POWERED GUN

NO HOSES • NO COMPRESSOR •
NO ELECTRICAL OUTLETS •
NOTHING EXTRA TO BUY!

BECKER
PRESSURE-TYPE
SPRAY GUN
USED EXTENSIVELY IN FACTORIES, HOMES, FARMS, INSTITUTIONS

For:
- Paints
- Oils
- Varnishes
- Enamels
- Fire-Proofing
- Decorating

Handy for hundreds of industrial uses where expensive, heavy, cumbersome compressor type spraying is unnecessary. Becker Spray Gun is ruggedly built; heavy gauge (21 liquid oz.) steel container, cast aluminum head, brass and stainless inserts. Powerful CO_2 cartridges spray up to one container-full. See your Distributor or order direct, postpaid. Extra CO_2 cartridges at your dealer's or 10 for $1 postpaid.

SULLIVAN-BECKER CO., Dept. 192-K, Kenosha, Wis.

If you write maker identify as IEN - 11828

Metso Cleaning...

Sparkling are the ink pots cleaned with Metso 99 Detergent. Metso wets oily ink quickly; holds it in suspension. Soluble silica, important component of Metso, prevents removed dirt from re-depositing. Get this quality of Metso 99 in your cleaning. You'll save time and money. Free trial sample on request.

Philadelphia Quartz Co.
1131 Public Ledger Building, Phila. 6, Pa.

Metso Detergents
PQ Silicates of Soda

If you write maker identify as **IEN - 11829**

NEW ZENITH MAGNETIC SOLENOID CONTACTORS

★ SOLENOID OPERATED
★ FINE SILVER CONTACTS
★ SIMPLIFIED WIRING

This ZENITH contactor is built to withstand the severe service demanded by loads based on Type-C lamps.

It is designed on the straight-line principle, with the solenoid being connected directly to the contact bar.

The advantage of this method of construction is its easy access to any part for quick inspection or service, without disturbing other parts.

Models: Size 1 - 25 amps. Size 2 - 50 amps.

Either size can be supplied in any number of poles.

TYPE SC 33

SEND FOR FREE CATALOG

This big, illustrated catalog contains all the newest items in automatic control equipment made by Zenith. Write now for your Copy!

ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

If you write maker identify as **IEN - 11830**

SEND FOR YOUR **FREE COPY**

NEW ACME BUSHING CATALOG

Contains America's **LARGEST BUSHING** Selection

Features **2** Standards
A.S.A. Standard *Plus*
Acme Standard

Makes Bushing Procurement Easy . . . Fast! Send For Your FREE Copy Now!

Simplifies, speeds bushing selection. Packed with valuable data. Saves you time and trouble. Also includes liners, leader pins, dowel pins, locating jigs, etc.

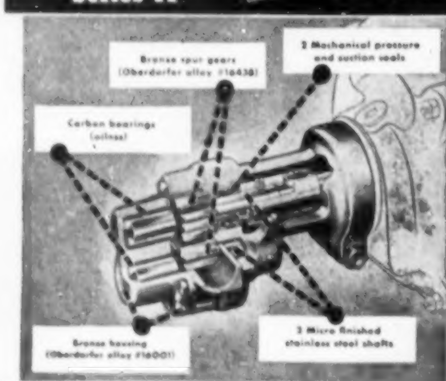
Serving Industry For 28 Years

ACME INDUSTRIAL COMPANY
215 N. Laflin St., Chicago 7, Illinois

MANUFACTURERS OF DRILL JIG AND FIXTURE BUSHINGS

If you write maker identify as **IEN - 11831**

INTERNATIONAL BRONZE PUMPS
Series II



DIMENSIONS & PRICES — Pump only				
Pump No.	Ht.	Width	Lgth.	Price
1½ CCC	2⅞"	[illegible]	4¾"	[illegible]
2 CCC	[illegible]	[illegible]	[illegible]	22.50

Complete units with ⅓ hp. 110 volt AC thermal overload motors (motor standard, but specially machined for pump mounting) . . . prices on request.

See our catalog in Sweet's File for PRODUCT DESIGNERS

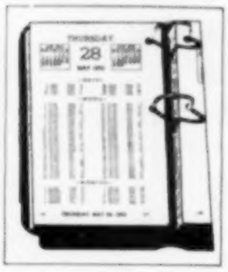
CAPACITIES — Gal. per min. 1725 rpm — lbs sq.in.		
Press.	1½ CCC	2 CCC
0 lbs.	[illegible]	4.00 gal.
25 lbs.	[illegible]	3.67 gal.
50 lbs.	1.67 gal.	3.17 gal.
75 lbs.	[illegible]	2.83 gal.
100 lbs.	[illegible]	—

Oberdorfer Foundries, Inc., Ind. Pump Div.
1129 Thompson Rd. Syracuse, N. Y.

If you write maker identify as **IEN - 11832**

RECORD KEEPING . . Calendar pad permits user to read "future" dates

Source: SCHEDULE-A-DATE CALENDAR CO.
310-12 E. State St., Ithaca, N. Y.



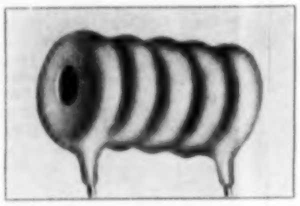
Pad and base $3.50

The company announces availability of the 1953 edition of its Schedule-A-Date desk calendar pad, previously described IEN-486-52. The pad is an assembly of sheets measuring 3¾ by 6 inches. It carries, on one side of each sheet, tabulations of days, weeks and months for the year 1953. On the reverse of each sheet, the facing page of the preceding sheet, is a calendar for the given month with the day identified and with space to make notations. A user can read the date represented by a promise of any given length of time ahead so "futures" can be seen at a glance.

If you write maker identify as **IEN - 11833**

RESISTOR . . Wire wound design, four ratings to 6 watts, 25,000 ohms

Source: INSTRUMENT RESISTORS CO.
1034-38 Commerce Ave., Union 4, N. J.



Specification MIL-R93-A

Ability to maintain essentially constant resistance over a temperature range between minus 55 and plus 125 deg. C. characterizes this new Type-P wire wound resistor. It will stand up in temperatures to 235 deg. C. Tolerance is 1 per cent.

The smallest unit in the line, Type P-1LG, rates 1 watt on non-inductive load with maximum resistance at 2,500 ohms. Body dimensions are $\frac{7}{16}$ in. in diameter by ⅛ in. in length. Type P-10LG, the largest of the four types, rates 6 watts and has maximum resistance at 25,000 ohms. It measures ⅝ by 2½ in. in overall dimensions.

Identify as **IEN - 11834**

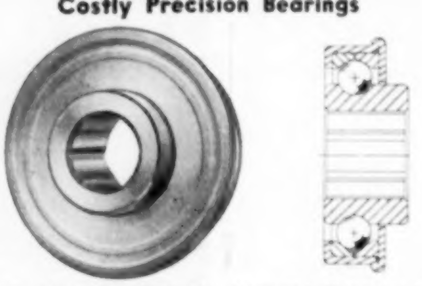
Ever wonder how powder metals are made? There are three methods accounting for most of the production according to F. J. Stokes Machine Company. One, for metals with relatively low melting points, is to melt and pour in a thin stream to be hit by a high-speed stream of air, gas or water spray. The resulting shower of tiny powder droplets is accumulated in a collector. Two, for metals such as copper, iron, tungsten, is to produce oxides from ores by roasting or by chemical means and then grind them to powder in a ball mill and reduce the powder to metal in a hydrogen atmosphere furnace. The third method is electrolytic deposition. It is employed particularly for iron, copper, silver. It involves electroplating with high current to produce a powdery or brittle deposit. The deposit is vibrated or flaked off and then ground.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 89*

If you write maker identify as **IEN - 11835**

A PAID NEWS ADVERTISEMENT BY SCHATZ MFG. CO.

Unground Flanged Ball Bearings With Hex Bores Replace Costly Precision Bearings



THE SCHATZ TYPE "A" Unground Flanged "Commercial" Ball Bearings with hex bores are designed to replace expensive precision bearings in many conveyor applications when load and speed conditions permit. Their cost in many cases is less than that of bushings or plain sleeve bearings—since costly machining and assembly time is eliminated.

HEX BORES on these low-cost bearings make positive shaft mounting easy. The flanged outer ring is especially adaptable for mounting in tubing — common practice in conveyors. Race rings are carburized, hardened and tempered, with smoothly finished ball tracks.

SCHATZ CATALOG NO. 11 contains complete specifications on all Schatz "Commercial" ball bearings, as well as information on Schatz Bearing Engineering Service which has produced many special type bearings to solve individual manufacturing problems while reducing costs.

For additional information write The Schatz Manufacturing Company, 6750 Fairview Ave., Poughkeepsie, N. Y.

If you write maker identify as **IEN - 11836**

MORE SPEED MORE SUPPORT

PADDOCK BALL-BEARING BAND SAW GUIDES

SPEED UP PRODUCTION — CUT COSTS PROTECT OPERATORS

PADDOCK BALL-BEARING GUIDES give friction-free support to the working portion of the blade to cut down whipping, binding, and breakage. You may save enough on blades to more than pay for PADDOCK guides. When a 36" machine is equipped with Model 20 guides and the guides are adjusted to hold the blade at a 45° angle, material 22" wide can be cut to any length.

Picture below at right shows angular adjustment and how ball-bearing wheels run with the blade. Write for circulars, prices and our recommendations, giving size of machines and material being cut. WRITE DIRECT TO

PADDOCK TOOL COMPANY
Guide Makers Since 1920
1418 Walnut St., Kansas City 6, Mo.

Paddock BALL-BEARING BAND SAW GUIDES

If you write maker identify as **IEN - 11837**

6 major improvements in Edmont gloves

to fit your job requirements

New flexible NEOX (reinforced neoprene) coating gives firm, easy grip

Never before a chemical and wear-resistant coated glove with such flexibility and grip. Far superior to ordinary neoprene. Most widely applicable of all coated work gloves.

Redmont heavy-duty NEOX gloves have improved safety-grip finish

Finish cured into 30% thicker NEOX coating. Won't chip or peel. Safest glove made. Seamless wearing surface, extra-wide thumb span, curved fingers.

New Grappler plastic gloves far outwear leather, other plastics

Coated with DUROX, 50% longer wearing, non-slip plastic, and made in new wing thumb, pre-flexed finger pattern that perfectly fits the hand.

Hand-fitting Monkey Grips with plastic coating

Second only to Grapplers for long wear and made in same pattern. Fits the hand all over; no bagginess; comfortable grip.

New white Sani-Gluv meets special sanitation requirements

Liquid-proof all-white plastic coating in our new hand-fitting pattern with wing thumb and pre-flexed fingers.

Improved white-fabric-lined Grab-its, approved by safety directors

Long-wearing, sure-gripping rough finished natural rubber, bonded to new and sturdier white fabric.

Test these gloves at our expense: Send brief description (on business letterhead) of your operations, materials handled and temperature condition. Without cost, we will forward samples of the type gloves we recommend for testing on-the-job. Address

Edmont Mfg. Co., 1226 Walnut Street, Coshocton, Ohio
World's largest maker of coated industrial gloves

Edmont job-fitted gloves

If you write maker identify as IEN - 11839

MARSH GAUGES

-the finishing touch to a good product

Through long experience the users of your product have learned to respect the lasting accuracy of Marsh — the greatest name in pressure gauges. A Marsh Gauge on your product is truly a mark of quality.

The Marsh line embraces pressure gauges and dial thermometers of every required type, construction, size, range, finish.

Ask for this catalog covering your instrument requirements

MARSH INSTRUMENT CO.

Sales affiliate of Jas. P. Marsh Corp., Dept. A, Skokie, Ill.
Export Dept., 155 E. 44th St., New York, N. Y.

If you write maker identify as IEN - 11840

ANNOUNCING the New FOLD-A-WAY

TRADE MARK

SCAFFOLD

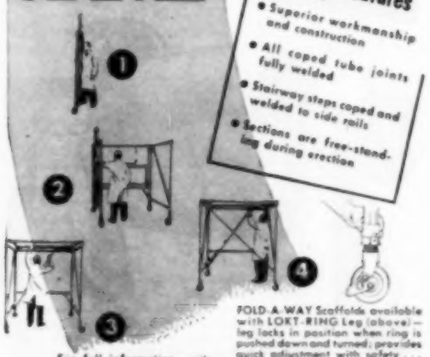
Here is an aluminum rolling scaffold which, because of exclusive design features, brings new ease of handling. For example, during erection the end frames swing open while scaffold is in a *standing* position. Maximum swing is 90 degrees, permitting man to stand *within* base area.

FOLD-A-WAY Scaffold stands freely yet will not "fold under" while being erected; upper folding sections stand with only two sprockets in position. Base dimensions: 4'6" x 6'. Sections fold to compact, 6½"-thick package. Approved by Underwriters' Laboratories Inc. Sectional Aluminum Scaffolds or sectional components for upper sections of FOLD-A-WAY Scaffold also available.

NO ACROBATICS— NO FLIP-FLOP!

Here's How One Man Sets Up FOLD-A-WAY Section with Minimum Movement—

In Less Than a Minute



Safety Features

- Superior workmanship and construction
- All caped tube joints fully welded
- Stairway steps caped and welded to side rails
- Sections are free-standing during erection

FOLD-A-WAY Scaffolds available with LOKT-RING Leg (above)—leg locks in position when ring is pushed down and turned; provides quick adjustment with safety . . . no pinched fingers. Standard leg—adjusted by simple twist of knurled nut.

For full information, write today for Bulletin ASF-1.

Gas Horse LADDERS SCAFFOLDING

for Greater Safety...Efficiency...Economy

THE PATENT SCAFFOLDING CO., Inc.

38-21 12th Street • Long Island City 1, New York

Dept. IEN, West Coast Plant: 6931 Stanford Ave., Los Angeles

If you write maker identify as IEN - 11842

CONTROL . . Electronic equipment detects CO in air, actuates blowers

Source: TALLER-COOPER INC.
73-77 Frost St., Brooklyn 1, N. Y.

Control room panel

Workers are protected in a closed area where carbon monoxide is likely to gather by new electronic equipment and associated apparatus connecting into the control circuit to ventilating blowers. The equipment also records the concentration of carbon monoxide and signals when it exceeds a predetermined limit. Variations as small as 0.05 part in 10,000 parts of air can be indicated.

Air samples are drawn in from critical locations in the protected area to a central analyzer by means of a vacuum pump. Air flow is controlled and measured by a meter from where it flows into the analyzer cell where the carbon monoxide is converted to carbon dioxide. Heat generated in this reaction is converted electrically into a measurement of carbon monoxide concentration in parts per 10,000. The electrical indication also is amplified and employed to operate the blower controls.

If you write maker identify as IEN - 11843

CONVEYING . . Vibrating trough for user assembly from standard parts

Source: LINK-BELT CO.
305-9 N. Michigan Ave., Chicago 1, Ill.

Ask for Book 2478

The company announces standardization of the component parts of its Flexmount vibrating or oscillating trough conveyor, previously described IEN-6546-51. These parts are now available in three trough widths of 8, 12 and 18 inches. They include the feed end drive ready for the user's motor, five and ten-foot primary conveyor sections for connection to the drive, ten-foot supplementary sections and odd lengths, under ten feet, to complete a desired length.

Special equipment, also in standardized assemblies, includes a five-foot intermediate drive section that places the drive between the conveyor ends, a transfer section with discharge and feed extensions, a one-foot discharge extension, dust-tight cover and a totally-enclosed motor rating 1 or 2 hp. for operation on 220/440-volt 60-cycle 3-phase ac. at 1,800 rpm.

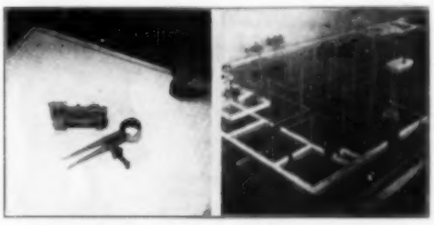
Motion is imparted to the trough by a roller-bearing constant-stroke eccentric. It moves the trough forward and upward on the resilient supports, then draws it quickly back and downward in a repeating cycle that gently but steadily urges the material forward. Input of 2 hp. will handle 8 to 17 ton per hr. on a 90-ft. conveyor. The 12-in. trough has capacity for 1 to 20 ton per hour based on material weighing 90 lb. per cubic foot.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11844

A PAID NEWS ADVERTISEMENT BY VISUAL PRODUCTION PLANNING INC.

LAYOUT . . Scale size models of equipment, personnel and plant



To reproduce your plant in miniature

New line of ¼-in. scale size models of machine tools, plant equipment, accessory equipment, all making up a complete plant installation, are available for layout purposes. The models are made of aluminum, brass, lucite, steel, wood and die castings. Each is a close copy in detail of the machine or equipment involved. We also can supply scale size models of buildings, office equipment and any specified type of accessories to make a complete model layout.

Use these three-dimensional models for your layout work and save time, valuable floor space, costly errors.

Complete catalog on request.

VISUAL PRODUCTION PLANNING INC.

Leisenring Ave. & 6th St. Connellsville, Pa.

If you write maker identify as IEN - 11845

FASTER! with HANSEN

—the **TACKER** *it Pays to Use!*

SAVES **TIME!** Wherever tacking and fastening are done — in assembly, production, shipping — Hansen speeds up operations, cuts costs and saves time. Balanced design—unique Take-up Jaw—for easier operation—quicker service.

STEPS! Hansen is self-contained, loaded, ready for instant, continual use. Holds scores of staples. Reloads quickly. Easily portable. Take it to the job! Hansen Vest-Kit saves back-tracking for refills.

MATERIALS! Accurate, precision driving—staples placed and driven exactly where you want them—no marring of surface — no wastage.

36 DIFFERENT MODELS
50 STAPLE SIZES

REQUEST BOOKLET

A.L. HANSEN MFG. CO.

5051 RAVENSWOOD AVE. CHICAGO 40 ILLINOIS

If you write maker identify as IEN - 11846

DE WALT "3 adjustment action"

assures easier, faster performance!

for
- PLANT MAINTENANCE
- PATTERN SHOPS
- CRATING AND BOXING
- CONSTRUCTION WORK

Here's the ideal, all-purpose machine to streamline your cutting operations, help to increase production and cut costs.

De Walt's "3 adjustment action" allows you to position saw for any desired operation....in seconds!

You can make 15 set-ups, 15 different cuts...in less than 15 minutes! You get precision, speed, complete safety. A De Walt does the work of many machines—takes up the space of one.

Write for catalog to: De Walt Inc., Dept. E-10, Lancaster, Pa.

De Walt Inc. **DE WALT** Lancaster, Pa.

POWER SAWS

Subsidiary of AMERICAN MACHINE AND FOUNDRY COMPANY, New York

If you write maker identify as IEN - 11847

HALLOWELL "700" STEEL PLATFORM TRUCKS —real factors in economical materials handling

All-steel, heavy-duty, maintenance-free construction and new, functional design which permits better load distribution and easier handling make HALLOWELL "700" Trucks real factors in reducing materials handling costs.

Versatility, too, cuts costs. Light and medium-duty units are easily converted to tilt type trucks. New-style corner sockets facilitate use of various accessories, speed changeover for different jobs. Write for bulletin 718-3.

STANDARD PRESSED STEEL CO.
Jenkintown 14, Pennsylvania

HALLOWELL MATERIALS HANDLING DIVISION

sps

JENKINTOWN, PENNSYLVANIA

If you write maker identify as IEN - 11848

PRATER ROTARY AIRLOCK FEEDER

FEEDS powdered and granular products into conveying line—quickly and accurately!
STOPS air leakage at the discharge of dust collectors or other pneumatic equipment!
PRE-DETERMINES rate of feeding material into mixers, blenders, hoppers, etc.
RECOMMENDED in the processing of: Ball Clay, China Clay, Diatomaceous Earth, Kaolin, Grains and Feeds, Graphite, Limestone, Whey Powder, Calcium Carbonate, Sulphur, Fullers Earth, Ochre, Volcanic Ash, Bronze Powder, Bauxite, Carbon Black, Salt, Barium Carbonate, Marl, Sugar, Cocoa, Gypsum, Silica, Manganese Sulphate, Phenolic Molding Compound.

Send for new illustrated bulletin

PRATER PRATER PULVERIZER COMPANY
1536 So. 55th Court • Chicago 50, Ill.

If you write maker identify as IEN - 11849

NEW REMINGTON STUD DRIVER

MODEL 450

Cartridge-powered tool sets fastening studs in seconds . . . *SAFELY!*

Completely self-powered, the amazing new Remington Stud Driver sets up to 5 fastening studs per minute—with no outside equipment, wires or cables required. Wood or steel structural sections are attached to steel or concrete surfaces in a matter of seconds!

Engineered for safety, the Remington Stud Driver is compact and portable . . . weighs only 5½ lbs. Swiveled construction permits easy loading, easy handling. All working parts of the Stud Driver are made of alloy steels . . . housing of strong, lightweight aluminum.

You can speed construction fastening up to 100 times faster than conventional methods with the Model 450 Remington Stud Driver. Why not see for yourself how this revolutionary new tool can cut costs and improve efficiency in *your* construction program. Send in the coupon below for complete information.

"If It's Remington—It's Right!"

Remington

DU PONT

Listed and Approved by Underwriters' Laboratories

CLIP AND MAIL THIS COUPON TODAY

Industrial Sales Division, Dept. IEN-10
Remington Arms Company, Inc.
939 Barnum Ave. Bridgeport 2, Connecticut

Please send me detailed information on the Model 450 Remington Stud Driver.

Name_____
Firm_____
Position_____
Address_____
City_____ State_____

If you write maker identify as IEN - 11851

TRUCK . . Engine driven fork lift, 2 to 5 ton, gasoline or diesel power

Source: YALE & TOWNE MFG. CO.
11003 Roosevelt Blvd., Philadelphia 15, Pa.

Ask for Bulletin S126B

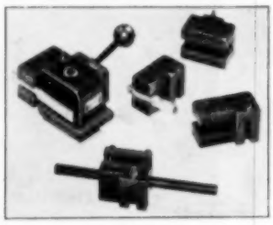
New design of the company's Yard King fork lift truck now permits interchangeable application of either a gasoline or a diesel engine to meet given service requirements. Beyond this new application of either engine the truck is the same as previously described IEN-7270-50. It lifts to a maximum of 130 inches. It lowers t an overall mast height of 85 in. to clear openings encountered in plant service.

The three-ton unit measures 148 in. in overall length including 36 in. forks. It can be turned in 90 in. intersecting aisles and travels in forward or reverse at 12½ mi. per hour under governor control. Overall width is 63 inches. The engine can be either a 65-hp. gasoline unit or a 40 or 63-hp. diesel. The load is lifted, lowered and tilted by hydraulic pressure. Travel movement includes a fluid coupling, clutch, transmission and drive axle in one integral unit with the engine.

If you write maker identify as IEN - 11852

LATHE TOOLS . . Tool post takes quick change adjustable holders

Source: GEORGE E. KIRKELIE CO.
8715-19 Darby St., Northridge, Calif.



For quick tool change

Tool bits, cut-off blades, drills, boring bars are mounted in clamped position on interchangeable holders that form a part of this new lathe tool assembly. The tool post mounts on a lathe carriage to present vertical ways in which the interchangeable holders for the individual tools apply. Each has vertical adjustment on the ways so it is not necessary to move the tool alone to make a desired set-up. Tool bits can be removed for sharpening and replacing in accurate position. The tool set is available to fit any standard engine or turret lathe.

Identify as IEN - 11853

Electronic analyzer developed by Goodyear Aircraft, known as GEDA L3, solves problems of motion and control in terms of voltages and wave forms. These are transcribed on paper in associated recording equipment for interpretation by trained technicians. A problem is set up by making electrical connections on a plug board at the front of the new instrument. Complicated mathematical problems can be solved in minutes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11854

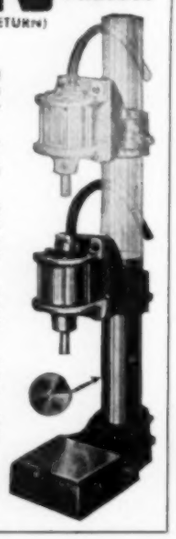
AIR-MITE AIR ARBOR PRESSES

(AIR OR SPRING RETURN)

Completely Flexible

AIR-MITE now supplies solid steel upright columns in any lengths required to give you these important flexibility features:

1. **Normal ram clearance of 0" to 6" may be increased to any clearance required for special application.**
2. **Supplementary or replacement cylinders with any ram stroke required are available for quick, easy mounting on same brackets.**
3. **Rapid socket wrench adjustment cylinder bracket swivels for perfect alignment with work.**



Presses are available in ¼, ½, ¾, and 1 ton capacities—for staking, riveting, marking, punching and similar operations.

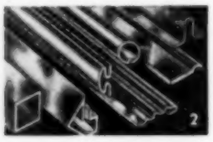
Write for complete catalog of Air-Arbor Presses and single and double acting Air Cylinders.

AIR-MITE
4417-L West Carroll Ave.
Chicago 24, Ill.

If you write maker identify as IEN - 11855

Which of these do you use?

(1) ALUMINUM EXTRUSIONS
(2) ROLL-FORMED SHAPES



It's so easy to make WERNER facilities a dependable part of your own production lines.

Simply tell us whether your interest is in ALUMINUM EXTRUSIONS or in ROLL-FORMED shapes of *aluminum, stainless steel, brass, zinc, copper.* You will receive immediately specific, well-illustrated information covering your inquiry—and detailing WERNER capacity for *secondary operations.*

Two strategically located WERNER high-capacity plants are now serving nationally known top companies.*

From WERNER—you'll get highly personalized attention and *service.* Write Dept. IEN for bulletins. **Names on request.*

Manufacturers - Basic Aluminum Extrusions and Roll-formed Products

A. O. WERNER CO. INC. ALUMINUM

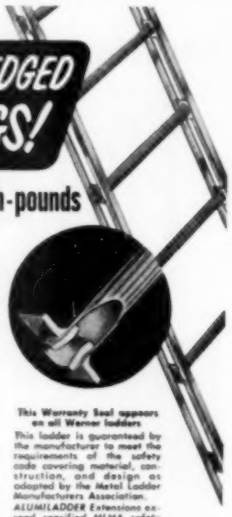
396 FIFTH AVENUE, NEW YORK 16, N.Y. • FACTORIES: GREENVILLE, PA. • OSHAWA, ONT., CANADA

If you write maker identify as IEN - 11856

DOUBLE-SWEDGED RUNGS!

(PAT. APPL. FOR)

withstand 4,600 inch-pounds torque test



This exclusive WERNER feature provides ever-straight, never-twist side rails. For you, this means a stronger, safer, longer-lasting, lightweight ALUMILADDER.

ALUMILADDER Extensions give you lightweight aluminum plus WERNER's save-weight, "fire-ladder" construction to conserve physical energy.

Extensions available with flared or straight bottoms.

Write Department IEN for complete, up-to-date ALUMILADDER catalog—Extensions, Singles, Steps.

This Warranty Seal appears on all Werner ladders
This ladder is guaranteed by the manufacturer to meet the requirements of the safety code covering material, construction, and design as adopted by the Metal Ladder Manufacturers Association. ALUMILADDER Extensions exceed specified MLMA safety factors.

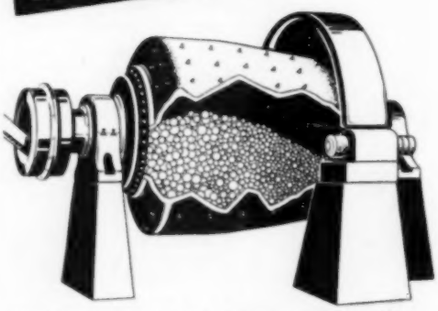
Manufacturers - Basic Aluminum Extrusions and Roll-formed Products

A. O. WERNER CO. INC. ALUMINUM

396 FIFTH AVENUE, NEW YORK 16, N.Y. • FACTORIES: GREENVILLE, PA. • OSHAWA, ONT., CANADA

If you write maker identify as IEN - 11857

If your problem is GRINDING



Hardinge offers a complete line of mills for wet or dry grinding applications: TRICONE MILLS, CONICAL MILLS, ROD MILLS, TUBE MILLS, CYLINDRICAL MILLS AND BATCH MILLS.

Ask for Bulletin AM-440-38

HARDINGE
COMPANY INCORPORATED

YORK, PENNSYLVANIA—240 Arch St. Main Office and Works

NEW YORK 17 • SAN FRANCISCO 11 • CHICAGO 6 • HIBBING, MINN. • TORONTO 1
122 E. 42nd St. 24 California St. 205 W. Wacker Dr. 2016 First Ave. 200 Bay St.

If you write maker identify as IEN-11858

For a Thousand and One Products

"Folded-and-Formed" Heating Elements

EVERYTHING from Hamburger Grills to Television Tube Annealers . . . Ovens, Dryers, Kettles, Calibrating Tanks, Hot Air Ducts . . . the list is long and growing longer. What is YOUR heating problem? Write for "Folded-and-Formed" facts and figures.

TREN INC
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE. PHILA. 27, PA.

If you write maker identify as IEN-11859

PRODUCTION UP
COSTS DOWN
WITH
Commander
PRODUCTION TOOLS

Adjustable MULTI-DRILL

- Adjustable To Any Hole Pattern
- Drill 2 to 8 Holes at 1 Stroke
- Fits Any Drill Press

MODEL 900

Increase production up to 800%—save time, cut costs. Mounted without alterations or special tools. 9" drilling area; centers to ½". Extension Spindles available to increase area to 22½". Special adaptations available.

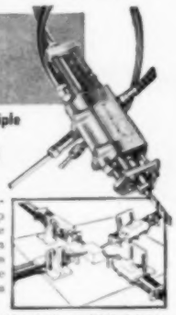
"the tapper that thinks for its operator"

Commander TAPPER

- Wider Range . . . 1 Tapper Handles #0 to ¾" Taps
- Automatic Tap Protection
- Furnished to Fit Any Drill Press

Adjustable full range torque control instantly stops any tap when it's dull, loaded, strikes a hard spot, or bottoms in blind hole tapping. Assures maximum production, cuts rejects, even with inexperienced operators.

MULTI-ANGLE DRILL UNIT



- Quick, easy set-ups for Multiple Drilling of angle holes
- Complete Drilling Unit—Full 4" Stroke

MULTI-ANGLE Drill Units provide unlimited freedom of set-up for long or short run multiple hole drilling jobs. May be mounted on fixtures, jigs or bolted to drill press table. Save time, cut costs on angle drilling. Used with any drill press or suitable power source.

See us at Booth No. 531, National Metal Show, Philadelphia

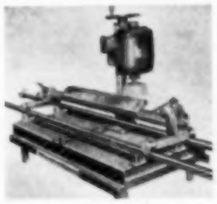
Write FOR CATALOG #851 and the name of your nearby Commander Distributor

Commander MFG. CO.
4219 W. KINZIE STREET
CHICAGO 24, ILLINOIS

If you write maker identify as IEN-11861

GRINDING . . Motor driven machine to sharpen planer and jointer knives

Source: WOODWORKERS' TOOL WORKS
Quincy & Jefferson Sts., Chicago 6, Ill.



Machine and stand $195

The work carriage in this new Model 50-K machine rides a pair of tubular ways and is equipped with an adjustable work support bar to which the knife is secured. The machine will grind to any desired bevel angle. The carriage is moved by hand over the ways. The wheel is raised to clear or is brought down to contact with the work by turning a hand wheel at the top of column.

Wheel mounting is on a shaft of a ⅓ hp. ball bearing motor, sealed design to operate at 3,450 rpm. on 110 or 220 volt single phase ac. The wheel is a 5-in. tapered cup unit.

If you write maker identify as IEN-11862

EXTINGUISHING . . Portable hand unit, holds pressurized carbon tetrachloride

Source: FYR-FYTER CO.
321 Crane St., Dayton 1, Ohio

Model B is a new hand fire extinguisher in one and two quart sizes. It delivers carbon tetrachloride by means of air pressure introduced at 150 lb. from a suitable dry air source at the time the unit is charged. Raising the handle breaks a seal to permit discharge and immediate vaporizing of the carbon tetrachloride. Complete discharge occurs in 17 to 25 seconds. Condition of the charge is indicated on a pressure gage.

If you write maker identify as IEN-11863

MILLING . . Carbide blade cutter machines a slot in armor castings

Source: DETROIT MILLING CUTTER CO.
28620 Grand River Ave., Farmington, Mich.

For defense production

Illustrated is a new 9-in. 18-blade staggered tooth side milling cutter in the company's Futurmill line. It employs solid carbide blades with a ⅛-in. radius ground on each corner. When the blades become dull they can be indexed to a new cutting position. Eight index movements can be made before they require regrinding.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-11864

A PAID NEWS ADVERTISEMENT BY THE VOL-U-METER COMPANY

Tumbler for Fibre Drums made in single and dual units

VOL-U-METER

The machine shown here tumbles fibre drums at an approximate speed of 45 r.p.m., using a ¾ H.P. motor on the dual and a ½ H.P. motor on the single unit.

Containers of the same diameter but different heights can be handled by using a spacer at end of shorter drum. If preferred cages for two different drum diameters can be supplied with the dual unit. The loading skids are optional and extra.

Use of a rectangular cage amply supports the drum and protects it against both side and end injury. One side of cage is removable for loading.

THE VOL-U-METER COMPANY
BUFFALO 16, N. Y.

If you write maker identify as IEN-11865

LAWLOR MOP WRINGERS

FOR EASIER MOPPING GET A LAWLOR NO. 2

EASIEST turning wringer made: there are bearings at ends of rollers.

EASY to bring rolls together: foot lever is perfectly balanced.

Copied but never duplicated!

EASY to move wringer: self-adjusting front casters raise metal feet from floor when you're ready to go. The LAWLOR No. 2 accommodates any standard round, galvanized pail up to 16-quart capacity. Net weight of wringer—23 pounds.

LAWLOR No. 6 TWIN is like the No. 2 Wringer in general construction, but accommodates two pails.

Write for Catalog of Mopping Tanks, Wringers, Floor Scrub Wax-Polishing Machines For every kind and size floor.

Quality Floor Equipment for 50 Years

S. C. LAWLOR CO. 120 North Aberdeen Street Chicago 7 Illinois

If you write maker identify as IEN-11866

Get BETTER Control with POWERS FLOWRITE VALVES

1 VALVE TOP—Durable moulded neoprene diaphragm (1) has positive sealing bead which provides increased sealing action with increasing control pressure. Efficient diaphragm form insures ample and constant operating power thru full travel. Piston Plate Assembly (2) has a free floating thrust plate which absorbs side thrust. Closely guided piston plate maintains stem in accurate alignment.

3 ADJUSTING SCREW—Ball bearing non-rising type with starting pressure adjustable from 0 to 17 psi. Has enclosed rust proofed steel spring for full travel in 5 or 10 psi. control pressure change.

4 BONNET ASSEMBLY—Polished stainless steel stem in preformed lubricated metallic packing insures long life and low hysteresis.

VARIETY of VALVE BODIES
Sizes ½" thru 8"

For line pressures below 250 psi. Rugged construction to withstand piping strains.
Write for Circular FMV

Reduce Maintenance with FLOWRITE VALVES

THE POWERS REGULATOR COMPANY
3400 Oakton Street, Skokie, Illinois
Established 1891 • Offices Over 50 Cities • See Your Phone Book

If you write maker identify as IEN-11867

standardize with standard
HALLOWELL WORK BENCHES

OTHER HALLOWELL FEATURES

- Sturdy, rigid construction requires no bolting to the floor
- 4 lengths, 3 widths and 3 heights—all standard
- 3 top materials—steel, Presdwood on steel, and laminated wood
- Assemble them as single units or bolt them together to form a continuous bench of any length
- Functional design and neat appearance

Standardized work benches, with *standard* unit accessories, permit you to *custom build* your HALLOWELL Work Benches at a fraction of the cost of *building your own*. Write for descriptive literature. STANDARD PRESSED STEEL CO., Jenkintown 14, Pennsylvania.

HALLOWELL SHOP EQUIPMENT DIVISION
SPS
JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN - 11868

CONTROL dust with DUCON CYCLONE COLLECTORS

DUCON HIGH EFFICIENCY COLLECTORS are widely used in all industries. Recover dust to reclaim valuable by-products or control dust to prevent air pollution.

Cyclone type separators built with non-turbulent gas inlets to insure a smooth flow, without destructive eddy currents.

Only DUCON Cyclone is equipped with inlet control and vortex shield for highest performance efficiency.

Custom-built, single or multiple units, with proper balance of shape, size and vortex shield in relation to air velocity.

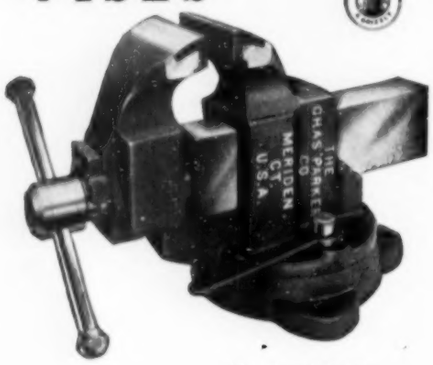
Expertly engineered, scientifically designed, simple, sturdy construction for continuous, heavy duty service. Let a DUCON engineer help you solve your dust problem.

Write for Catalog DC49-1

The DUCON Co.
MINEOLA, N. Y.

If you write maker identify as IEN - 11869

PARKER VISES



The Complete Line

Write for catalog

Machinists • Top Swivel Jaw
Combination Pipe • Hinge Pipe
Woodworkers • Utility

STOCKED BY DISTRIBUTORS EVERYWHERE

THE CHARLES PARKER CO., MERIDEN, CONN.

If you write maker identify as IEN - 11870

FOTO-FLO* MODEL C PHOTO-COPYING MACHINE
New! Speedier! More Economical!

DAYLIGHT OPERATION NO DARKROOM REQUIRED

Makes up to 5 (18" x 24") Prints a Minute of anything written, printed, drawn or photographed

WRITE DEPT. 52-60 for information showing how FOTO-FLO can speed production and lower photo-copying costs.

*Reg. U. S. Pat. Off.

HALOID THE HALOID COMPANY ROCHESTER 3, NEW YORK
Branch Offices in Principal Cities
Photocopy Papers • Photo-copying Machines • Photographic Papers

If you write maker identify as IEN - 11871

TESTING . . Indicator reads per cent CO_2 in a furnace flue

Source: INSTRUMENT ENGINEERING SERVICE
R-3, Box 345, Dept. A, Michigan City, Ind.

List is $195

A small pump, vibrating diaphragm type, is located in the housing of this new portable Thermco Analyzer to draw in, continuously, a sample of flue gas through a probe and connecting tube. The sample passes through a moisture trap, a filter and a flowmeter, then through the pump and into an electrical measuring cell which detects the presence of carbon dioxide. The reading is indicated on an electric meter on the housing face that is accurate to within 1 per cent of scale reading.

The dial is illuminated so the instrument can be employed in dark locations. The instrument is responsive to changes in flue gas concentration five seconds after they have occurred. A complete reading requires twenty seconds. Maximum reading is 20 per cent. Assembly is in a housing measuring 10 by 10 by 10 inches. Weight is about 12 pounds. Operation is on 110-volt 60-cycle ac.

If you write maker identify as IEN - 11872

TRUCK . . Special JackStacker for cylindrical loads to 1,100 pounds

Source: LEWIS-SHEPARD PRODUCTS INC.
190 Walnut St., Dept. R-1, Watertown 72, Mass.

For narrow aisles

Power driven arms rotate on a boom that rides up and down on the carriage of this new special design of the company's JackStacker power lift truck. They handle roll type loads from 53 to 88 in. in length. The truck will lift and stack any cylindrical object with a core hole through which a lifting rod can be thrust.

Lowered height of the hooks is 8 inches. Lift height is maximum at 8½ feet. Side motion of the arms is 31 in. on either side of center line. Power rotation is controlled at the head of the steering tongue. The truck will clear in 39-in. aisles. Stable operation is provided by the Celoron casters at the outboard ends of legs extending from the base. Steering and power travel are combined in the central wheel assembly at the front.

Identify as IEN - 11873

Creped liner, reinforced, water proof, tough, durable, is offered by J. J. Lipp Paper Company for use in highway trucks with gouged, splintered, punctured interiors for freight protection. The liner keeps out highway spatter, trailer seepage. It prevents damage from water, oil, grease, prevents contamination by fumes and odors. It can be applied with self-adhesive tape or staples. Width is 62 inches. Length, in rolls, is 164 feet. A sample is available.

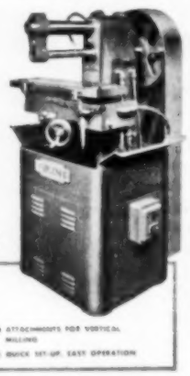
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN - 11874

The Versatile VIKING Hydraulic SPEED-MILL

For conventional and climb milling

IDEALLY SUITED FOR SECONDARY SCREW MACHINE WORK



- INFINITE VARIABLE SPEED WITH DIAL-CONTROLLED DRIVE
- AUTOMATIC HYDRAULIC CYCLING
- OVERSIZE DESIGN AND CONSTRUCTION
- HEAVY FLYWHEEL DESIGN GIVES SMOOTHER DRIVE, BETTER FINISHES
- ATTACHMENTS FOR VERTICAL MILLING
- QUICK SET-UP, EASY OPERATION

The new improved Viking Speed-Mill, ideal for secondary operation work in screw machine shops, is the answer to many light, production milling problems. With the Viking, small, light pieces requiring multiple cuts, good finishes, and close limits can be machined quickly, accurately, and economically. Setups are fast, operation is easy, even with relatively unskilled operators. Automatic hydraulic cycling and infinite spindle speed variations assure higher production efficiency and longer cutter life.

BRIEF SPECS: 5.5-6" x 24-1/4" table. Cut on length up to 17" maximum movement. 11-4" vertical adjustment. 140-2" [illegible] spindle variable speeds 50 to 1000 r.p.m. Accommodates cutters up to 6" diameter.

Emergency delivery in less than 30 days. For complete information write—

VIKING Industries

320 MONTAGUE ST. • ROCKFORD, ILLINOIS

If you write maker identify as IEN - 11875

CASE HISTORIES PROVE YOU CAN SAVE $ $ $ with SPRAGUE POWER FACTOR CAPACITORS

- CUT POWER BILLS
- AVOID EXTRA EQUIPMENT
- ALLOW BIGGER LOADS
- PROVIDE PLANT FLEXIBILITY

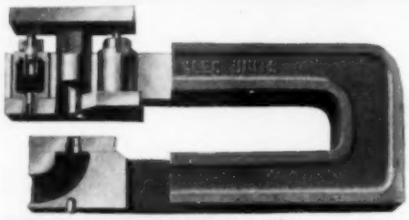
Thousands of installations throughout industry are proving daily that Sprague Power Factor Capacitors installed at each piece of inductive electrical equipment eliminate waste current *right at the source*. Power factor is corrected to the maximum, allowing a greater load at reduced power cost. Need for extra wiring, switchgear, and transformers is often avoided, and plant expansion or moves can be made at minimum cost. *Write for Free 28-page Power Factor Correction Guide.*

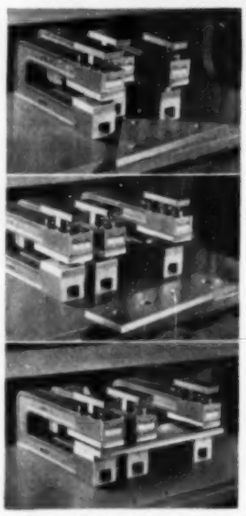
SPRAGUE

Industrial Capacitor Div.
SPRAGUE ELECTRIC CO.
165 MARSHALL STREET
NORTH ADAMS, MASS.

If you write maker identify as IEN - 11876

WALES HYDRA-STRIP UNITS for punching round or shaped holes in material up to 3/4" thick





Above cutaway view of Wales Hydra-Strip Hole Punching Unit shows 2 Wales Hydra-Springs (one on each side of the punch). The Hydra-Spring at left of the punch is a cross-section view.

Showing a template set-up of Wales Hydra-Strip Hole Punching Units in a press brake.

A straight line setup of Wales Hydra-Strip Units with 1-4" thick punched work in foreground.

Showing setup of Wales Hydra-Strip Hole Punching Units with work on top of dies ready to be punched.

A major *PROBLEM* in perforating sheet metal has been the stripping of thick material . . . not the punching. Wales Hydra-Springs *solve* this age old problem by providing many times more stripping pressure than mechanical springs of the same volume.

These *revolutionary* springs permit compact, self-contained, independent Wales Hole Punching Units to punch and *strip* material up to ¾" thick.

Such *outstanding performance* is the result of utilizing the compressibility of special fluids. Wales Hydra-Spring loads may be changed by a simple adjustment to increase or decrease the volume of fluid.

This is too big a story to tell in this space so WRITE TODAY for complete information on Wales Hydra-Strip Hole Punching Units.

WALES-STRIPPIT CORPORATION
George P. Wales, Chairman
381 Payne Avenue, North Tonawanda, N. Y.
(Between Buffalo and Niagara Falls)
Wales-Strippit of Canada Ltd., Hamilton, Ontario
Specialists in Punching and Notching Equipment

If you write maker identify as IEN - 11878

AT GENERAL ELECTRIC CO., Magni-Focuser aids precision work on fine armature wires.

People work better when they SEE BETTER

MAGNI-FOCUSER

speeds production

Leaves both hands free to work

MAGNI-FOCUSER — the binocular magnifier — reduces eye-strain and prevents squinting — thereby speeding production, increasing accuracy and minimizing the chance of errors and accidents.

Gauge reading, layout work, inspection, tool and die work are just a few of the jobs that need the Magni-Focuser. Speeds precision assemblies, blue print work. Restores the usefulness of the skilled hands of many older workers whose vision needs a seeing aid. May be used with or without eye glasses. Normal vision may be resumed by lifting head.

Magni-Focuser can help your plant produce better. Immediate delivery. 10-day trial without obligation. Return to us if not satisfied. $10.50. Send for folder.

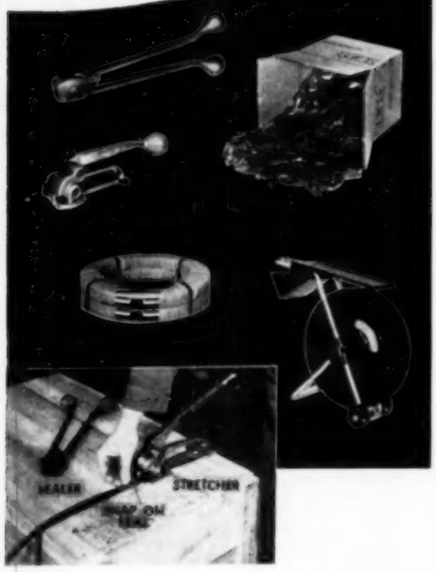
Edroy Products Co., Dept. E, 480 Lexington Ave., New York 17
Cable address: "SEEBETTER"

If you write maker identify as IEN - 11879

IF YOU SHIP YOU NEED THIS

SIGNODE

Strapping Outfit



Loss and damage are no respecters of products or containers. Protection in transit is a "must." To enable you to give your containers the best protection, Signode offers this low-cost strapping kit.

It includes everything you need—stretcher, sealer, strap dispenser, 180 lbs. of strapping and 5000 seals. The cost of this entire outfit is less than $100, depending on your location and the strap size you need.

A Signode fieldman is ready to give you complete details—and a free demonstration in your plant. For fast action, write *today*.

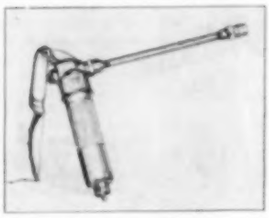
SIGNODE
STEEL STRAPPING COMPANY
2611 N. Western Ave., Chicago 47, Ill.

THIS SEAL MEANS SIGNODE SECURITY IN SHIPPING

If you write maker identify as IEN - 11881

LUBRICATING . . Hand grease gun delivers a small high pressure shot

Source: LINCOLN ENGINEERING CO.
5732 Natural Bridge Ave., St. Louis 20, Mo.



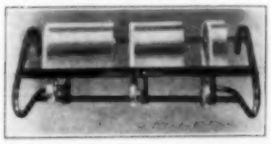
Needs no packings

Model 1120 is a new hand operated booster lubricating gun that holds 2½ oz. of lubricant in its body reservoir for delivery in small amounts at pressure to 10,000 pounds. Delivery action is by pressing the operating lever. The "push" arrangement assists in holding the coupler in place on a grease fitting. Refilling is through a fitting at the base of the body by means of pressure supply equipment.

If you write maker identify as IEN - 11882

DISPENSING . . Masking paper holder for use in spray painting departments

Source: INDUSTRIAL TAPE CORP.
Highway #1, New Brunswick, N. J.



Permacel tape and paper

Permacel No. 8 is a new tubular steel rack or holder designed to dispense tape-edged masking paper in one or more widths. The unit measures about 42 by 14 by 14 in. and takes paper rolls to a maximum of 36 inches. It also takes narrower rolls in multiple such as 12, 9 and 3 in. as shown in the illustration.

If you write maker identify as IEN - 11883

GRINDING . . Sharpening machine for drills and single point cutters

Source: McDONOUGH MFG. CO.
1554 Galloway St., Eau Claire, Wis.

About $300

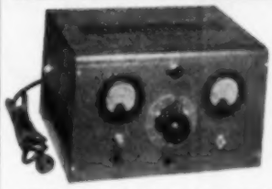
Twist drills ranging in size from ⅛ to 2½ in. with standard 59-deg. lip angle can be sharpened on this recently improved machine. Single point cutters, such as lathe tools also can be kept in first class condition. The machine is known as Model D and is designed particularly for installation in a tool crib to be operated by the crib attendant.

Drive is by a ⅓-hp. motor operating at 3,450 rpm. on 220/440-volt 3-phase 60-cycle ac. It mounts two 6 by 1½-in. cup wheels.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11884

FILTERED BENCH RECTIFIER



at ¼% RIPPLE

BENCH RECTIFIER MODEL 1028F

— a rugged and versatile bench power supply for laboratory and production use. **$175.**

Model 1028 (Unfiltered) $112

- .25% Ripple at Full Load
- Single-knob, stepless, continuously-variable output control covering full range from 0 to 28 volts D.C.
- Operates at 10 amperes continuous duty
- Full-wave bridge rectification for minimum output ripple and maximum efficiency
- Selenium stacks conservatively designed—rated for continuous operation at full load even in high temperature surroundings
- No moving parts—no maintenance required
- All parts thoroughly tested before and after assembly
- Custom built seleniums hand-picked for resistance and voltage characteristics
- Heavy duty top quality filter choke and transformer

UNCONDITIONALLY GUARANTEED FOR ONE YEAR
(OTHER MODELS BUILT TO YOUR SPECIFICATIONS)

INDUSTRIAL RECTIFIER CO.
120 CEDAR STREET, NEW YORK 6, N.Y. Phone: DI 9-2832

If you write maker identify as IEN - 11885

7 important advantages with MATCH & MERRYWEATHER

HEAVY DUTY ANTI-WELD SOLUBLE OIL

Triple-Chip deters welding and pick-up; prevents rust. Consequently, tool life is lengthened and accurate, milled-finish work is produced. Tool maintenance and replacement is reduced. Furthermore, Triple-Chip is non-injurious to the skin, is smokeless and odorless.

Get a supply today from your local dealer.

THE MATCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING CLEVELAND 13, OHIO
COMMAND OUR UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

If you write maker identify as IEN - 11886

Federal ANNOUNCES

The FIRST SUCCESSFUL

ENCAPSULATION

of SELENIUM RECTIFIER STACKS

...PLUS OTHER COMPONENTS

A unique development in component-sealing —opening to industry a new concept in

MILITARY EQUIPMENT DESIGN

Applications range from tiny rectifiers to sub-assemblies and complete power supplies

Here are a few major advantages:

- Expands the application range of rectifiers
- Replaces oil-filled and special applications
- Ideal for sub-assemblies of various components
- Assists heat dissipation at high altitudes
- Better protection from fungus, corrosion, etc.
- Adaptable to complicated printed circuits

For full information, write to Dept. F-223.

Federal Telephone and Radio Corporation
100 KINGSLAND RD. CLIFTON, N. J.

If you write maker identify as IEN - 11887

2 standards meet most requirements

UNBRAKO precision-ground dowel pins are regularly furnished in two *Standard* types: blue label pins made +.0002" oversize to meet nominal press fit requirements; red label pins made +.001" oversize for use as *repair pins*. Both have a 6 microinch maximum surface finish and a diameter tolerance of ±0.0001". Write for descriptive literature. STANDARD PRESSED STEEL CO., Jenkintown 14, Pennsylvania.

UNBRAKO SOCKET SCREW DIVISION **SPS** JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN - 11888

FULFLO OIL BY-PASS RELIEF VALVES

JUST SET . . . AND FORGET!

Choose from 5 pre-determined pressures and set . . . FULFLO VALVES get going and keep on going uniformly and quietly for as long as you want.

TROUBLE-FREE
NO MAINTENANCE
NON-CHATTERING

BRASS OR CAST IRON

For pressures from 0 to 500 lbs., sizes ¼" to 2".

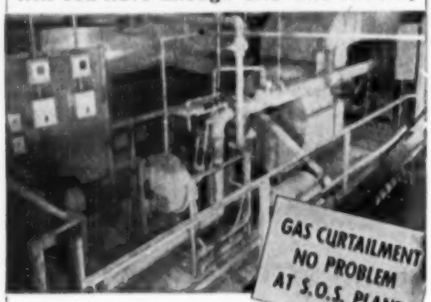
FLANGE OR STANDARD

Write on your letterhead for professional edition of FULFLO MECHANICAL DATA BOOK

FULFLO THE FULFLO SPECIALTIES CO. Inc.
BLANCHESTER, OHIO

If you write maker identify as IEN - 11889

Will You Have Enough GAS this Winter?



THIS OVEN DESIGNED FOR GAS . . BUT IT'S FIRED WITH OIL VAPOFIER

The S.O.S. Company, in Chicago, has insured production against losses due to seasonal gas curtailment by installing Vapofier as gas standby. Change-over to and from gas is made without loss of flame at the burners in a matter of seconds. The same piping, burners, automatic controls and safety devices are utilized.

Capacities from 70,000 to 4,000,000 B.T.U.'s per hour

Should your processing be annealing, galvanizing, heat treating, glass manufacturing, industrial drying, paint, core or bread baking, there's a Vapofier to fit your needs.

Do away with Gas shortages this winter. Send for FREE booklet "Make Your Own Gas with Vapofier."

VAPOFIER CORP., 10326 S. Throop St., Chicago 43, Ill.

If you write maker identify as IEN - 11890

HOW TO PICK THE RIGHT PUMP FOR YOUR PURPOSE

Tuthill now makes it easy for you to select the pump best-suited to the service you require. In one simple, letterhead-size table, the Tuthill Pump Guide gives you the details you need—types of service, pump models for each, capacities, pressures, speeds, packing, mountings, and exclusive features. Saves time, work and trouble.

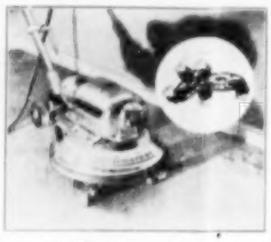
Write for this PUMP GUIDE today!

TUTHILL PUMP COMPANY

If you write maker identify as IEN - 11891

CLEANING . . Grinding attachment for concrete, brick, terrazzo floors

Source: AMERICAN FLOOR SURFACING MACHINE CO. 516-20 S. St. Clair St., Toledo 3, Ohio



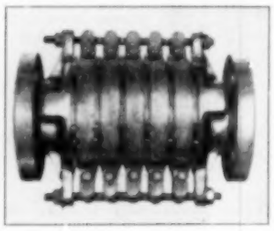
Will work in small areas

Planetary discs mount three grinding stones in free rotating assembly on a cast iron plate in this new grinding attachment for the company's floor surfacing machine. The stones rotate with the machine and also on their own axes to smooth out rough spots and to straighten uneven concrete, brick, terrazzo floors. The attachment is available with Carborundum stones of varying degrees of coarseness for roughing and polishing work. Application can be made on 15 to 17-in. DeLuxe machines in the company's line. Weight of the attachment with three stones is 22 pounds.

If you write maker identify as IEN - 11892

PIPE FITTING . . Expansion joint provides axial, offset, radial action

Source: FLEXONICS CORP. 1333 S. Third Ave., Maywood, Ill.



New design is announced by the company for its Flexon expansion joint, previously described IEN-3862-50. Improvements apply to both the free and controlled types. They include limitation of each single assembly to a maximum of ten corrugations, and to twenty for a dual assembly. Weld end lengths have been standardized. Overall and face-to-face dimensions are the same for its copper and stainless steel controlled assemblies. Standard sizes range from ⅜ to 6 inches.

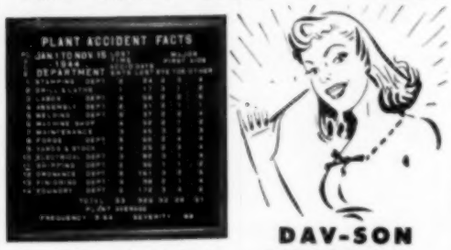
Identify as IEN - 11893

Fruit canning involves handling varieties of grades, each in a variety of forms and types of syrups, into unlabeled cans prior to cooking. The handling must be simultaneous and a means provided to sort each grade and variety and filling, after cooking, for labeling and despatch to its correct warehouse position. Industrial Electronic Engineers have found a way to do the job by magnetically marking the bottoms of the plain cans prior to filling, by electronically reading the invisible markings as the cans emerge for the cookers and using these readings to actuate a sorting and routing machine. D. G. Gumpertz, company engineer, has written and illustrated a excellent article detailing the installation and the action.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11894

THE EASY WAY TO TELL!



Changeable Letter Bulletin Board
The message you want—when you want it!

DAV-SON INDUSTRIAL BULLETIN BOARDS

Employee bulletins, safety messages, production records all get maximum attention when you use DAV-SON Bulletin Boards. There is a DAV-SON Bulletin Board for every purpose.

- Changeable Letter Boards
- Cork Back Pin-Up Boards
- Indoor and Outdoor Types
- Metal or Hardwood Frames
- With or Without Locking Glass Doors
- Illuminated and Non-Illuminated
- Special Safety Displays
- Single and Multiple Panels

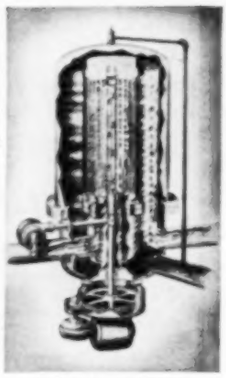
Cork Back Boards. For letters, photos, posters, etc.

Write for complete information regarding your requirements.

A. C. DAVENPORT & SON, INC.
ESTABLISHED 1923
311 N. DESPLAINES ST., CHICAGO 6, ILL.
MANUFACTURERS OF BULLETIN BOARDS FOR EVERY USE

If you write maker identify as IEN - 11895

Save Water . . . Cut Bills with this strainer



Make raw river or lake water fit for industrial use by passing it through a Cuno FLO-KLEAN.

FLO-KLEAN strains out trash at flow rates up to 20,000 gpm. No attention needed—with continuous backwash cleaning* of the strainer and automatic top and bottom blow-down.

Reclaim used process water with FLO-KLEAN—save water bills and heating costs.

Write for FLO-KLEAN bulletin—see how FLO-KLEANS have paid for themselves in as short a time as six months. Cuno Engineering Corporation, Dept. 693F, South Vine Street, Meriden, Connecticut.

*Even the backwash water is reclaimed—not a drop wasted!

CUNO
Fluid Conditioning
Removes More Sizes of Solids from More Types of Fluids

If you write maker identify as IEN - 11896

More and More Industrial Users Specify . . .

VACO
BREAK-PROOF
SHOCK-PROOF
Screw Drivers

Only Vaco Offers Such Uniformly High Quality... So Many Styles and Sizes ... At Such Low Overall Cost!

• Yes, industrial users everywhere . . . men who know quality, value and price in tools . . . rely more and more on Vaco for every screw driver need. Made with electrically heat treated chrome vanadium steel blades and exclusive Vaco Amberyl fire-safe handles, Vaco products give more for the money . . . are low cost in the long run. Buying is easy, too, because there are more than 250 Vaco stock styles and sizes . . . all your regular, Phillips, clutch head, Reed and Prince, Klipxon, offset and specialty drivers from *one* source!

Another VACO "Special"—Beryllium Copper Non-Sparking Drivers

The new Vaco Beryllium-copper screw drivers have found immediate acceptance where there is an explosion hazard. Nearly as strong as finest steel, yet completely spark proof, these fine drivers are durable as well as safe. Prices are conservative . . . full information on request.

FREE 32-Page Handbook-Catalog

Users of screw drivers have found the new 1952 Vaco catalog to be a veritable mine of information. Every major type of driver is illustrated. Complete tables give all useful application data including bit size, handle diameter and length, blade dimensions, screws to be driven, etc. Send for your free copy, *today!*

VACO PRODUCTS CO.
317 E. Ontario Street, Chicago 11, Illinois

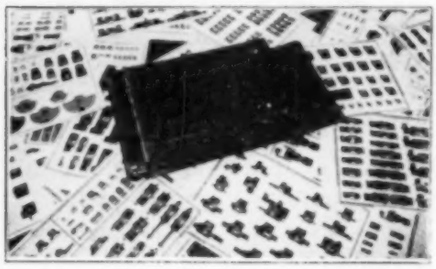
In Canada: Vaco-Lynn Products Co., Ltd. 304 Laurier Ave., W., Montreal 8, Quebec

More Than 250 Screw Driver Styles and Sizes!

If you write maker identify as IEN - 11898

NOW READY FOR DELIVERY!!

5,000 templets of machine tools and equipment on film for layout planning



Scale is ¼ inch to the foot

Sheets of 12 by 18-inch film are printed with scale-size floor plan silhouettes of some 5,000 machines for about 170 manufacturers. They are assembled in the book shown to form a Master Planning File to use in planning a shop or plant layout. The black silhouettes enable you to make photographic reproduction of a given layout, using sectioned paper marked off to the same scale.

The Repro-Templet Master Planning File will be shipped immediately on receipt of purchase order.

$650 express prepaid

REPRO-TEMPLETS INC.
Oakmont, Allegheny County, Penna.

If you write maker identify as IEN - 11899

New Jacques, Jr. CUTTERS

Speed Production! Make Cleaner Cuts!

TABLE MODEL
featuring automatic material-holder.

Ideal for cutting paper, plastics, rubber, fabrics and other light materials

Now, at low cost, you can increase cutting efficiency and production. Jacques, Jr. all-metal cutters are designed for cutting jobs which do not require large heavy-duty cutters — yet *do* require more ruggedness, speed, and accuracy than are found in ordinary light paper cutters.

Jacques, Jr. construction features add speed and efficiency to your cutting operations. Exclusive automatic material-holder (self-adjusting clamp) automatically comes down, as blade is lowered, to hold material to be cut. Adjustable gauge and steel rule (on table model) assure accurate cuts. Other features include high grade steel blades, spring tension cutting, and safety spring on blade handle (to prevent accidental cutting). Sturdy, all-metal construction stands up under continuous use.

BENCH MODEL

Attaches to your own bench. Cuts materials from continuous rolls or long strips. Perfect for many in-line production operations.

AVAILABLE IN TWO MODEL TYPES

Table model comes in 12", 16", 20", 24" and 30" sizes. Bench model (for your own bench) available in 24", 30" and 36" sizes.

Investigate the advantages of Jacques, Jr. cutters now! Write for descriptive circular giving complete information!

There's a Jacques shear or cutter for your every cutting need!

Let us know your cutting requirements and problems. We'll recommend the shear best suited for your use. Write for descriptive catalog page on each machine.

UNIVERSAL SHEAR — Cuts material quickly into clean, uniform strips—¼" to 20" in width. (Six sizes available)

BENCH SHEAR — Cuts widths up to 10 ft. on your own bench. Extremely versatile! (Twelve sizes available)

POWER SHEAR — For intermittent or continuous cutting, up to 70 strokes per min. Adaptable for *any* production set-up.

OTHER SHEARS
- J-L Shear (lighter, less expensive adaptation of Universal Shear)
- Card Cutter (small, compact cutter)
- Bookbinder's Shear (for specific applications)

For faster, cleaner cutting through the years, specify only genuine Hobbs replacement blades, accessories, and repair parts.

HOBBS MANUFACTURING CO.
411 SALISBURY ST., WORCESTER 3, MASS.
Producers of Modern Machinery for Modern Industry
EST. 1902

Jacques Hand and Power Shears, Slitters and Rewinders, Hobbs Automatic and Tri-Power Die Presses, Paper Box Machinery and Touch-O-Matic Industrial Centers.

If you write maker identify as IEN - 11901

ELEVATOR . . Hand operated ramp raises and lowers in shipping platform

Source: LOOMIS MACHINE CO.
852 Industrial Ave., Clare, Mich.

Rates 5 ton

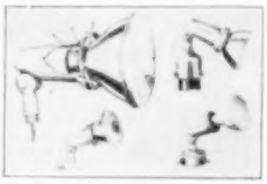
Illustrated is a model assembly of the Rite-Hite hand operated ramp, previously described IEN-2870-52. The company has added a new 72 by 72-in. size for installation in a shipping platform.

The ramp is counterbalanced to hold in "up" position. The balancing weight is designed to maintain positive contact between the floor of a truck and the ramp when the latter is lowered into "riding" position.

If you write maker identify as IEN - 11902

LIGHTING . . Weatherproof holder for reflector lamps on platforms, yards

Source: STONCO ELECTRIC PRODUCTS CO.
331-5 Monroe Ave., Kenilworth, N. J.



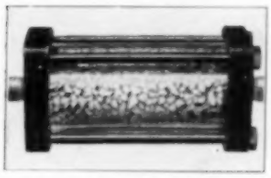
Protects plant and workers

Cushion seal made of silicone rubber characterizes the construction of this new weather proof lamp holder. It has been designed to mount reflector lamps with medium and mogul bases to provide area flood lighting and protective lighting in yards, at loading platforms, plant entrances and exits.

If you write maker identify as IEN - 11903

SIGNALING . . Moisture indicator for application in a ¼ in. air line

Source: KING ENGINEERING CORP.
Box 530-A, Ann Arbor, Mich.



Moisture shows pink

Pyrex glass cylinder is held by tierods between brass end plates in this new moisture indicator. The cylinder is filled with chemically coated calcium sulphate granules. Application is made in a ¼-in. air or gas line. The granules remain normally blue in color as long as no moisture is present in the air or gas. Moisture turns them pink. They can be removed and dried out so they will return to the blue color for use again by heating them in a pan at about 400 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 11904

BLUE DEVIL
SOCKET SCREW PRODUCTS

Finer

Actual cross-section photo shows structure of continuity of Blue Devil cap screw head.

BLUE DEVIL Socket Screws are quality-right for every application. See your distributor for the complete Triple-Ess Catalog . . . or write direct.

Sold Through Authorized Industrial Distributors.

SOCKET SCREWS EXCLUSIVELY!

SAFETY SOCKET SCREW COMPANY
6508 Avondale Avenue
Chicago 31, Illinois

If you write maker identify as IEN - 11905

IF REQUIRED . . .

Two Weeks Delivery on Nominal Orders for VALVAIRS

— THANKS TO —
VALVAIR DIVERSATILITY

3-way, knob-operated air control valve.

• Valvair Diversatility is an exclusive, original form of standardization. Five basic bodies permit incorporating any one (or two) control assemblies with a standard valve body. Unique Valvair advantages enable us to speed your order at no extra cost. . . Sizes: ¼" through 1". May we fill your orders now?

Get new Bulletin "Q-10".

VALVAIR CORPORATION
Affiliate: Sinclair-Collins Valve Co.
949 Beardsley Ave., Akron 11, Ohio

Rely Upon **Valvair**

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JOHNSON Rotary Pressure JOINTS

Jam-packed with cost-cutting, efficiency-boosting characteristics, the Johnson Joint offers exciting possibilities you should know about. It's a packless, self-lubricating and self-adjusting way to get heating or cooling agents in or out of rotating machine parts; used on calenders, dryers, ironers, mills and similar machines. There are hundreds of design and production problems for which it holds the perfect answer.

Write for complete literature

The Johnson Corporation
846 Wood St., Three Rivers, Mich.

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FISHING FOR TROUBLE?

That's What You're Doing If Your Underground Walls Leak!

STONHARD STONTITE

Corrects and Prevents **COSTLY WATER SEEPAGE**

Damage to merchandise, raw materials and machinery is costly. Spalling walls, excessive mildew and foundation deterioration can be the big fish that *CAUGHT YOU!* Modern STONHARD STONTITE applied to walls or floors seals these leakages, even from the open side. Its high density makes application quick and simple. There's no need for costly excavating. Whether it be an Elevator Pit, Basement, Tunnel, Dam or Reservoir your own maintenance men can do the job. Write today for full information.

STONHARD COMPANY
Building Maintenance Materials Since 1922
102 Stonhard Bldg., 1306 Spring Garden St., Philadelphia 23

Yes, I want details on STONHARD STONTITE 102/10/52
Name
Company Title
Address
City Zone State

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Protect YOUR MACHINERY with a STEARNS MAGNETIC PULLEY!

Metallic refuse can cause costly repairs and possible shut-downs but at the American Crystal Sugar plant in Moorhead, Minn., a Link-Belt installation, this Stearns Electro-Magnetic Pulley helps guard against trouble.

If you want automatic low-cost protection against tramp iron hazards, consult Stearns Magnetic—our engineers have the know-how and experience to solve your problem.

Electro and Permanent Magnetic Pulleys and Pulley Separators to fit your needs.

Foremost in the Magnetic Field
Stearns MAGNETIC INC.
626 SOUTH 28th STREET • MILWAUKEE 46, WISCONSIN

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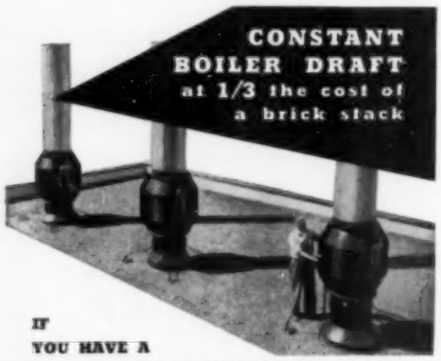

IF YOU HAVE A **DIFFICULT STACK PROBLEM** take a tip from Viroqua Co-op Creamery, Viroqua, Wisconsin. Three DeBothezat Induced Draft Bifurcator Fans maintain constant boiler draft regardless of weather conditions. According to manager Sylvan Dregne, these fans were installed for approximately 1/3 the cost of a suitable brick stack.

How much can YOU save by installing Induced Draft Bifurcator Fans? Ask your DeBothezat representative or write for details.

DeBothezat Fans
Division of American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

If you write maker identify as IEN - 11910

FINISHING PROBLEM?

Switch to Black & Decker POWER!

B & D SANDERS

3 models, 7" and 9" disc diam., standard and heavy-duty types

B & D ELECTRIC SANDERS drive abrasive discs, saucer grinding wheels, "Whirlwind" wire cup brushes, planing and gouging heads—to speed up sanding metal and wood; grinding down welds and casting ridges; cleaning castings, tanks, vats, sheer metal and soldered joints; surfacing timbers. B&D-built universal motors for dependable service. Match-lapped, spline-mounted spiral bevel gears for smooth, quiet flow of power. Perfect balance for easier handling. See your nearby B & D Distributor for a demonstration. Write for free catalog to: THE BLACK & DECKER MFG. CO., 608 Pennsylvania Ave., Towson 4, Md.

LEADING DISTRIBUTORS EVERYWHERE SELL
Black & Decker
PORTABLE ELECTRIC TOOLS

"I WISH I HAD-"

An IEN reader is waiting for an answer to each item in this column.

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

ENGINEER . . "I wish we had contact with an engineer for employment in our midwestern manufacturing concern to handle field service problems and prepare layouts for new pump applications." **IEN W-99**

MANAGEMENT . . "I wish I had contact with a concern that requires the services of a young business man who knows both Spanish and English. I am located at present in Memphis, Tenn." **IEN W-100**

NEW PRODUCTS . . "I wish I had contact with a manufacturer to take over production and sale of my patented parallels for use in tool and die shops. The patent number is 2599500. I have the required jigs and fixtures to machine these parallels in my plant in Massachusetts." **IEN W-101**

SURPLUS . . "I wish I had a buyer for an automatic rotary multiple pressing machine measuring 12 ft. in diameter and equipped with twenty 25-ton hydraulic presses with automatic loading arms. Niagara Falls, New York." **IEN W-102**

SURPLUS . . "I wish I had a buyer for about 400 tapered spring steel rods in which the taper is ground from ¼ in. at one end to 1/10 in. at the other over 5-ft. length. Finish is by cadmium plating. The rods were made originally for use as aerials on bombing planes. Some were used later in making hand rods for large fish. The 400 remain in surplus in Spokane, Washington." **IEN W-103**

PLEASE WATCH FOR YOURS

Certain copies of this publication for the next few months will carry a post card on the front page. It is intended for your use to make sure you still want to remain on our mailing list. Please watch for the one with your name on it.

OK or correct your name and address as they appear on the card. Please also check the question asked. They are simple, self-explanatory, essential to our circulation audit.

If you write maker identify as IEN - 11911

WORKING SHEET OR PLATE STEEL?

LOOK at what PULLMAX CAN DO

STRAIGHT CUTTING

Straight cutting, circle cutting, free hand cutting, slot cutting, beading, folding, louvering and many variations of these operations . . . ALL ON ONE PULLMAX MACHINE! Easy to set up and change tools . . . seven sizes of machines work materials up to 11/32" in mild steel . . . also works stainless steels, non-ferrous metals, wire mesh and plastics.

CIRCLE CUTTING

WRITE FOR LITERATURE

FOLDING

SLOT CUTTING

BEADING

FREEHAND

PULLMAX—A complete sheet and plate working shop in one machine

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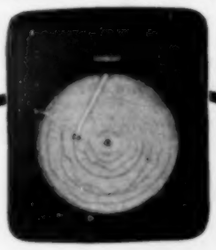
2459 N. SHEFFIELD AVENUE • CHICAGO 14, ILLINOIS

If you write maker identify as IEN - 11912



NOW! Up to 6 Records of pH on one round chart!

● With but one instrument and one pH amplifier, records of as many as six pH measurement points may now be obtained on a *single round chart*. This means initial savings as high as 60% or more, as well as greatly simplified installation. The instrument which makes this possible is the new and altogether unique Foxboro Multi-Record Dynalog* Electronic Recorder. Supplied with flow-type or immersion-type electrodes. Foxboro Recording Controllers also available.

The Foxboro Company, 4218 Neponset Ave., Foxboro, Mass., U.S.A. Branches in principal cities.

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FOXBORO pH RECORDERS

If you write maker identify as IEN - 11913

Here's one that "rules out" mistakes!

NEW **STANLEY** "100 PLUS" FOLDING RULE No. X226

This new Stanley Rule not only saves time, but also avoids chances of many errors made with ordinary rules.

Read it four ways:

1 Direct reading at one point for inside measurements using slide.

2 Reading as ordinary extension rule for inside measurements.

3 & 4 Reading from either end as a regular folding rule.

True square ends and "even" inch sticks permit use as marking gauge for measurements in 2" and 4" multiples, and end-to-end measurements in 6" multiples.

Stanley Tools, New Britain, Conn.
Call your Distributor!

THE TOOL BOX OF THE WORLD
STANLEY
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Look for the "Green Ends"
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HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

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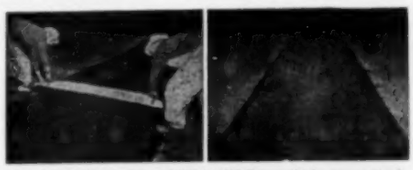
NEW FLOORS IN 24 HOURS

FLOORS LAID TODAY • READY FOR USE IN 24 HOURS



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